THE NEW YORK

# JOURNAL OF MEDICINE

FOR NOVEMBER, 1858.

## PART FIRST.

## ORIGINAL COMMUNICATIONS.

ART. I.—*Case of Aneurism of the Femoral Artery for which Ligatures were successively applied to the Femoral, Profunda, External and Common Iliac, occurring in the New York Hospital during the service of* DR. GURDON BUCK. Reported by GEORGE F. SHRADY, M.D., Assistant-Surgeon to the New York Hospital.

THE patient, Wm. Allen, 40 years of age, a native of Virginia, was first seen June 6, 1858, by Dr. Chas. K. Briddon, to whom I am indebted for his history up to the time of his admission into the hospital. The patient was a mulatto, married, and the father of a family; of spare habit, tall stature, and wore the aspect of one addicted to dissipation; and at the time he was seen by Dr. Briddon, he had suffered considerably from want of sleep and profuse sweats, attended with an occasional febrile action. A month previous to that time he (the patient) first perceived a pulsating tumour in the middle third of the left internal femoral region; this rapidly increased, and soon produced the usual effects of pressure, pain and œdema of the parts below. He was unable to assign any cause for the appearance of the swelling except a slight injury he received a year previous from a blow on the post femoral region of that side by a cart-rung.

The tumor was ovoid in shape and occupied the whole of the middle third of the femoral region, reaching from about four inches below Poupart's ligament to that point where the femoral perforates the abductor magnus muscle; the tumor being raised about an inch and a half above the level of the thigh.

The pulsation was very strong and was evident to the eye at

a considerable distance. The thrill communicated to the hand was most marked laterally. Auscultation detected a very loud bruit. Pressure on the proximal side of the tumor arrested the pulsations and bruit.

On the day following, Dr. Buck was consulted. At that time the patient's sufferings seemed to be augmented; and he stated that at 3 o'clock that morning he felt something give way in his thigh, immediately after which the swelling increased in size. It then lost its ovoid shape and diffused itself in all directions; the pulsations were then not so visible to the eye, and the bruit changed its character. The veins of the leg were very tortuous and enlarged. Dr. Buck advised an early operation which was accordingly performed by Dr. Briddon.

At 1 P.M., the following day, the patient was etherized and an incision was commenced two inches below the centre of Poupart's ligament, terminating about over the same. The sub-cutaneous adipose tissue was divided and the dissection carried carefully through the infiltrated tissues down to the sheath; an opening having been made in the sheath, a dissector was introduced and the vessel isolated from its connections with the sheath by this instrument and the handle of the scalpel. The vessel was not disturbed to a greater extent than was necessary to pass the needle under it; but was observed to be much larger in diameter than is ordinarily met with. An unarmed aneurism needle was passed between the sheath and artery from within outwards. When the needle came into view its point was obstructed by a transparent layer of connecting tissue. The finger-nail was used to scratch through this obstacle; at the moment of doing this the wound filled with arterial blood, which issued with a sound that indicated its escape from a large vessel. Dr. Buck pressed his finger into the wound and arrested the hemorrhage, while the blood was wiped away and a double ligature passed through the eye of a needle and drawn under the vessel. One of these ligatures was secured above and the other below the point where it was supposed that the rupture had taken place.

This, however, did not seem to arrest entirely the flow of blood; and, accordingly, while pressure was made with the thumb, Dr. Buck extended the incision upwards, dividing Poupart's ligament, with the lower portion of the tendon of the external oblique, and then by pushing upwards the lower fibres of the internal oblique and transversalis muscles and dilating the parts, a ligature was passed around the external iliac artery at that point where it is about to go under the ligament. This procedure arrested the hemorrhage; but inasmuch as it was not deemed safe to leave him in that situation in his own quarters

he was removed to the hospital, where Drs. Parker, Van Buren and Markoe being present, a consultation was held without delay.

The parts were freely explored, the diseased condition of the artery recognized, and, to make everything as secure as possible, another ligature was placed on the femoral near the origin of the profunda and also on the profunda itself. The wound was closed with sutures, and the dressing completed with a compress and spica bandage. The limb was loosely enveloped in cotton.

19th June, eleventh day after operation.—Patient progressed favorably. On the fourth day the coverings were removed from the limb, the natural temperature having returned. The diffuse swelling of the limb steadily diminished, leaving the aneurismal swelling more exactly defined in its limits. No adhesion having taken place, the wound was left to heal by granulation, and had diminished considerably in size. Patient has been taking since the operation a grain of opium every three hours.

At 3 A.M., blood was discovered trickling from beneath the bandage, and before the hemorrhage could be controlled, a quart of blood was lost. Compression was kept up by a pad and bandage till 1½ P.M., when a consultation was held, and it was decided to apply a ligature to the external iliac within an inch of its origin. The operation was accordingly performed by Dr. Buck. On removing the compress and bandage the hemorrhage was slight.

The original wound was extended three inches higher in the same direction. The abdominal muscles were successively divided and the peritoneum brought into view. This membrane was carefully raised from the hollow of the ilium, and the artery was reached at the point where the ligature was to be applied. Crampton's needle armed was passed from within outwards under the vessel, and the ligature was secured. The new incision was brought together with sutures and strap, then a compress and bandage was placed over the whole. Ordered to take a grain of opium every two hours.

25th.—The wound from last operation is healing by the first intention. The granulating surface of the old wound presents a pretty healthy aspect. The ligature from the profunda came away to-day.

On the 27th, the first ligature applied to the external iliac came away; also the ligatures to the common femoral.

29th.—The upper ligature applied to the external iliac came away to-day.

The patient's general condition improved progressively. The

limb maintained its natural temperature, the aneurismal tumor gradually diminished, and everything advanced favorably till 5th July, when several slight hemorrhages occurred as follows: at 5 A.M., 7 A.M., and 12½ P.M., each being arrested by the proper adjustment of compresses. The hemorrhage was observed to come from an opening left by the imperfect closure of the last wound.

July 6.—This morning at 5 A.M., a profuse hemorrhage occurred, estimated at about a pint. The exact source of it could not be ascertained, nor could it be entirely controlled by compresses applied to the wound itself. It was not till a thick graduated compress was secured over the aorta that it was fully arrested. The effect of this hemorrhage was to produce great prostration, which required the free use of stimulants and strong beef tea during the day. At 6½ P.M., a consultation was held, and it was decided to give the patient the benefit of the only remaining resource, namely: the ligature of the common iliac near its origin. A good degree of reaction having been brought about, the operation was resorted to without further delay, as follows:

Chloroform having been administered and the compresses removed without any recurrence of hemorrhage, an incision was made about four inches in length from the upper extremity of the previous wound and carried upwards and somewhat inwards towards the median line. The integument and abdominal muscles were successively divided till the peritoneum was reached. This membrane was carefully detached with the ends of the fingers and raised from the hollow of the ilium till the neighborhood of the vessel was reached, where it was found adherent. In detaching these adhesions the peritoneum gave way and an opening was formed capable of admitting the thumb. The artery was at length reached and a ligature passed around it at about an inch from its origin. During these proceedings, one of the surgeons stood in readiness to make pressure over the aorta in case of necessity.

7th.—Patient is pretty comfortable, though he complains of considerable pain around the seat of the wound, and tenderness on pressure. Pulse 100, and pretty full. Six leeches applied around the wound, followed by a poultice; the old wound looks well, and is dressed with simple cerate and patent lint. Takes his beef tea pretty well. The recent wound looks well, and has partly healed by first intention. Limb of normal temperature. Takes one grain of opium every hour.

8th.—This morning pain and tenderness have considerably diminished. Pulse regular, 100, and moderately full. Appetite only fair.

10th.—Patient now has no pain around the wound; feels very weak. Takes a grain of sulph. quin. every four hours, and the opium is diminished in frequency.

He continued to do well until the morning of the 13th, when hemorrhage took place at the upper part of the wound to the amount of four or five ounces, which was arrested by a compress as before. Fearing hemorrhage might now make its appearance at any time, compresses were kept constantly applied.

19th.—Patient's general condition has improved very much since last note. Pulse now 80, soft and full. The ligature last applied upon the primitive iliac came away to-day. The wound looks very well, and is granulating finely. Appetite good. Rests well at night. Patient is allowed moderate stimulants.

21st.—Last night, about six o'clock, a slight hemorrhage took place, amounting to about two teaspoonfuls of blood, which ceased of itself.

22d.—This morning, about three o'clock, quite a profuse hemorrhage occurred, the patient losing about half a pint of blood; this was soon arrested by the readjustment of the compress. Patient feels very weak in consequence of the loss of blood. Pulse 108. In the evening his pulse was found to have risen very rapidly to 140 per minute. Stimulants were stopped, and in order to quiet the action of the heart, tr. veratrum viride was prescribed in doses of five drops every three or four hours, but without any good result. During the afternoon he had two or three pretty severe rigors. His pulse continued to increase in frequency until it was impossible to count it. He continued to sink during the following night, and died at six o'clock the morning of the 23d.

*Post-mortem examination.*—Emaciation of whole body very considerable. Peritoneal cavity was exposed in the usual way by an incision through the median line, intersected by a transverse incision through the umbilicus. A clot extended from the right iliac fossa upward between the caput coli, ascending colon and liver, and lateral parietes of abdomen and diaphragm, capable of filling a pint measure. A small clot, with three or four ounces of turbid serum, was found in the cavity of the pelvis. No lymph was observed on the surface of the intestines or the parietal peritoneum. A considerable quantity of turbid serum was found among intestines, and in the region of wound on left side. A swelling filled up the left iliac fossa, and pushed forward the superjacent parts, including the descending colon, which was closely adherent to the swelling. Over the margin of the pelvis, on the left side, an opening in

the peritoneum, of the size of a copper cent, was found communicating with the cavity of the wound, which was caused during the last operation, as has been already noticed in the preceding history. This cavity was found filled with coagulated blood, which constituted the swelling occupying the fossæ iliaca, and in the midst of which were found the parts involved in the last two operations. The extravasated blood in the pelvis and elsewhere had no doubt escaped through this opening into the general peritoneal cavity. The common iliac artery was found divided across, and the ends retracted from each other. The division produced by the ligature had taken place nearly an inch from the angles formed by bifurcation of aorta.

With the object of exploring the aneurism, and the condition of the parts concerned, a dissection, exposing the entire length of the femoral artery and the external and common iliacs, was made by Dr. Agnew, to whom I am indebted for the following facts: The common iliac was found completely cut through at a point three-quarters of an inch below its origin. In the proximal portion of the vessel a small amount of partially discolored clot was found attached to the inner coat. The external iliac was opened by a sloughing wound to the extent of one-half of its circumference, about one inch below the bifurcation, at a point corresponding to that described in the operation for ligation. Half or three-quarters of an inch below this, the upper and lateral walls of the vessel were wanting, leaving an oval aperture with sloughing edges. The point of ligature of the common femoral corresponded with the description given of the operation. It was observed that the artery, from the point of ligature of the common iliac to a distance of two inches below Poupart's ligament, had fallen into a state of slough. Lying parallel with the lower portion of the external iliac and upper portion of common femoral, and partly within the sheath of the vessel, was a jagged calcific mass, resembling, in the eroded nature of its surface, a bony sequestrum, but unconnected with the pelvic edge, and evidently not of ossific character. Through this mass the superficial circumflex coursed as through a tunnel, and exhibited in its walls marked calcific degeneration. On slitting open the femoral a little below the origin of the superficial circumflex, and examining its inner surface, a sharp point of the calcific mass was exposed: suggesting the theory that it might have inflicted the wound, which led to the original hemorrhage when the first attempt was being made to pass a ligature. The femoral was then traced and found healthy to the entrance of the tunnel in the adductor at this point, where the postero-lateral wall of the vessel was entirely gone, and a false aneurism, with a capacity of

at least half a pint, was found. The os femoris, which formed the external boundary of the aneurism, was denuded of periosteum to a considerable extent. The upper limit of the aneurism was nearly four inches above the opening in the artery, and the lower about three. The posterior and inner aspect of the cavity presented about two ounces of laminated clot, but in no other portion of its extent could any semblance of a true wall be found. The artery, both above and below the opening, exhibited thickening and atheromatous deposits. The popliteal vein, which was found occluded in its lower portion, and enlarged in a fusiform manner in the upper portion, on being opened, exhibited the effects of phlebitis; the occluded part was stuffed with lymph, and the distended part formed the walls of a considerable abscess. On tracing up the vein, it also opened into the false aneurism at a point corresponding to the rupture of the artery. An examination of the contiguous surface of the os femoris, revealed a very prominent and jagged linea aspera, the edge of which, to the extent of an inch, was somewhat movable. Though so much time had elapsed from the death of the subject, the care exercised in preparing the limb had sufficed to preserve its points of interest.

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Art. II.—*Errors of Digestion.* By Wm. S. Bowen, M.D., of New York.

A gentleman whom I casually met at the sea-side, informed me that during the last four years he had suffered from gastralgia. Pain in the stomach was the only symptom he complained of, but there was manifest loss of flesh and strength. The pain, he said, had always been relieved by a full meal; this, however, was followed by flatulence. Remedies had proved unavailing. There was not any degree of soreness, or nausea, or vomiting, or water-brash. His appetite was unimpaired, and his bowels regular, and all the excretions were *apparently* healthy. His tongue was pale, but quite clean; pulse a little quick and frequent; countenance of an ashy hue.

I report this case as being simply illustrative of the fact, that our treatment of errors of nutrition must of necessity be empirical so long as confused ideas of digestion prevail. The current opinion is that stomach digestion is histogenetic—and this opinion is correct. Is it *as* clear that nitrogenous food is absorbed by the stomach?

This view depends upon the practical isomerism of the protein compounds, and their identity with the albumen and fibrin of the blood, and the solvent power of pepsin (?) when added to hydrochloric acid. But the question arises, how is

soda, which is unquestionably, essential to the metamorphoses of albumen, combined with that body? Perhaps I may be pardoned, in view of cases like the above, for submitting the following outline of histogenetic digestion, legitimately derived from the organic chemists.

Nitrogenous food consists of the protein compounds in combination with sulphur and phosphorus, and alkaline phosphates and chlorides. Add to these substances the muriate of ammonia and muriatic acid of the gastric juice, and the reactions furnish the chlorides of potassium, calcium, and sodium—and the muriates of magnesia and ammonia—and phosphate of water—oxygen being liberated.

These salts are absorbed by the stomach, except, perhaps, the chloride of sodium, which, from its affinity for albumen, probably combines with that body, in part, at least, as it is elaborated, and precipitates it, as it were, thus enabling it to pass separately from the amylaceous and fatty matters into the intestines, there to be combined with the soda of the bile, in order to be rendered osmotic—this being, obviously, the office of that alkali in the secretion.

The albumen, thus prepared for absorption, passes into the lacteals as a protoxide of the albuminate of soda, being also in combination with sulphur and phosphorus, and such other inorganic matters as are not eliminated by the digestive process. In the lacteals, etc., and the blood-vessels, the metamorphoses of albumen are continued—fibrin and the blastema being produced by oxidation.

I have endeavored, in as few words as possible, to answer the question above propounded. The slightest reference to any recent work on physiology will enable the practitioner to fill up the outline, and thus test its accuracy. It will be seen that the views herein contained are based upon the protein theory which was demolished eleven years ago. The history of this theory is curious. Suggested by the supposed isomerism of the albuminous bodies, it failed to demonstrate their isomerism satisfactorily, or the necessity for this identity of chemical constitution in the production and assimilation of the plastic element of the blood.

Proclaiming the discovery of a radical, and giving directions for its preparation, and an account of its properties, constitution, and combinations, the ablest chemists declared that they were unable to prepare it, and that if Mulder succeeded, then this product of his laboratory stands isolated and without an analogue in the series of known organic bases. And they were right. Yet this hypothetical substance—*protein*—has lent its name to the pages of chemistry and physiology, from

the great systematic works down to the fugitive article of a medical journal.

Mulder asserted that protein was the radical of the albuminous bodies, vegetable and animal. Liebig denied it, because "a body destitute of sulphur, and having the composition of protein, is not obtained by the methods given by Mulder." *

It is remarkable that Liebig failed to see the broad physiological character of the protein theory. Mulder did not claim for protein that it is a chemical base, in the strict technical sense of this term. He was as able to judge of its complex character, and the difficulties attending its analysis, as any chemist in Europe, and he waived the consideration of this point, and presented the radical named as the common foundation of all the organized tissues, which it truly is. This oversight on the part of Liebig can be accounted for on the supposition that the habit of exact and rigid analysis had trained his mind to associate definite ideas with definite terms.

The general opinion of chemists on this subject is expressed in the following quotation from the *Quarterly Journal of Chemistry:* †

"It is now generally admitted that albumen, fibrine, and casein, do not part with the whole of their sulphur when submitted to the action of potash—that, in fact, protein does not exist; and Guckelberger deduces from this fact, that sulphur is contained in these bodies in two distinct forms of combination, the one of which is decomposed with the loss of its sulphur by potash, whilst the other is not; that these substances are not simple compounds of a single group of atoms, or radical (protein) with sulphur, but are made up of several groups, which must be considered as proximate constituents of the compounds.

"Elementary analysis is not calculated to throw light upon the constitution of such complex combinations as these here under consideration, and recourse must be had to the study of the products of their decomposition, a method which has been of such signal service in promoting our knowledge of other less complex substances, as may be instanced in the cases of amygdalin, salicin, etc."

Receiving this with all respect, I would nevertheless state, that however true it may be in the abstract, it has but a remote and indirect bearing upon the question at issue, and I furthermore assert, that a desulphurizing and dephosphorizing process does occur in nature as indicated by Mulder, and that pure albumen (protein)—the peptone elaborated primarily

* *Chemistry of Food.* † Vol. i. p. 82.

from the protein compounds of the food—is presented in the capillary vessels as the radical of the blastema, and is, therefore, what Mulder claimed for it, a true physiological base. Admit the principles here involved, and the study of nutrition, and of pathological organic processes, becomes intelligible; deny them, and even the logical demonstration of these processes is arrested by "*the present state of science.*" We are at sea without a compass.

It may be said that I have given a wider significance to protein, than Mulder intended; or, that I have assigned to it an office, and attributed to it powers not contemplated by him. Let us see.

He says:* "In both plants and animals a substance is contained, which is produced within the former, and imparted through their food to the latter. To both, its uses are numberless. It is one of the most complicated substances. It is very changeable in composition, under various circumstances, and hence, is a source of chemical transformations, especially within the animal body. It is, unquestionably, the most important of all known substances in the organic kingdom. Without it no life appears possible on our planet. Through its means, the chief phenomena of life are produced. In the animal body, this substance is the chief constituent of the blood, the muscles, and many other parts, and affords frequent opportunity for the production of new compounds.

"No impartial observer can either doubt or deny that protein preëxists in plants, and is not produced by the weak alkaline solution used to prepare it. For, first, the protein compounds within the plant have precisely the same properties as protein itself, provided we exclude those properties which belong to the substances combined with the protein. Vegetable albumen, for example, which is a compound of protein, sulphur, and phosphorus, has all the properties of protein, modified slightly by those which belong to sulphur and phosphorus. If we consider further, that protein and albumen have the same composition in the hundred parts, abstracting the sulphur and phosphorus which the latter contains, we think there can be no doubt that protein does preëxist in plants.

"It has been proved that the chief constituent of the animal body is prepared by plants; that animal fibrin, albumen, and casein differ from each other only by the small proportions of sulphur and phosphorus which they contain, and that they yield the same protein as vegetable albumen does when treated

* *Chemistry of Vegetable and Animal Physiology.*

with alkalies. Liebig has since discovered a similar identity between vegetable albumen, coagulated albumen, legumin, and glutin, in so far as their relative proportions of carbon, hydrogen, and nitrogen are concerned. The analyses he has published, have thus more fully confirmed the conclusion, that all these substances are protein compounds.

"It is certain, however, that they contain protein compounds, which, when introduced into the animal body, transfer the protein to it unchanged. Hence, we may infer, that the changes produced by animal digestion in these substances, in order to prepare animal constituents from them, are, *first*, that it dissolves the insoluble vegetable albumen and glutin; and, *secondly*, that it alters the quantity of sulphur and phosphorus, which probably exist in the vegetable protein compounds in other proportions than in those of the animal. With regard to glutin, this fact is proved."

(Lehman, however, remarks, in connection with this point,* that the quantity of sulphur in the peptones he found to be constantly the same as in the substances from which they were derived.)

It will be seen that I have not modified Mulder's theory further than to call his protein albumen. Let us now examine the grounds of Liebig's opposition.†

"The chemist (Mulder) who first entered on the field of research, which promised so abundant a harvest, assumed, on the strength of the most defective experiments, that in these three substances (albumen, fibrin and casein), the four above-named elements (carbon, hydrogen, nitrogen and oxygen) were combined exactly in the same way in all, to form a group, which group constituted a distinct substance, capable of being isolated, to which the name of *protein* was given. Assuming the chemical constitution of this group as the same in all three bodies, what was now the origin of so great a difference in properties as they presented? The cause of this difference was sought for in a fifth element or in a second group.

"It was found, namely, that all these animal substances contain a certain amount of *sulphur;* it was assumed, that some of them contained also a certain amount of *phosphorus;* and the variation in their properties was ascribed to the presence of this sulphur, or sulphur and phophorus (the existence of phosphorus, as an essential element of these substances, has not, however, been in any way established). In this way, an organic radical, or a body analogous to organic radicals, was created; a body formed by the combination of twelve hundred

* *Physiological Chemistry.* † *Chemistry of Food.*

elementary atoms, a group of twelve hundred atoms, the physical character of which was determined by the addition of one or more atoms of sulphur and phosphorus. To support this view, a property was imagined, which a compound of sulphur could not possibly exhibit. The sulphur, which in these compounds caused such striking differences, was as loosely combined with the protein as we find it in a mixture of iron filings or sawdust with sulphur. It was supposed, that when these substances were acted on by an alkali, the sulphur was detached from the protein, just as easily as if it had not been combined with it; it dissolved in the form of sulphide of potassium and hyposulphite of potash; the protein was thus set free, and dissolved also in the excess of alkali; and when this alkaline liquid was neutralized by an acid, the fundamental constituent of these animal substances, the protein, was obtained in the form of a gelatinous precipitate. The idea of the sulphide, or of the sulpho-phosphide of protein, led at once to a series of oxides of protein, to a multitude of imaginary substances, to which was now ascribed, as of old to phlogiston in chemical processes, the function of determining and effecting all the changes which occur in the vital process.

"Let us now see to what truths this supposition has led, and how it explains the differences in the properties of the animal substances. In the latest work of Mulder, the constitution of the protein compounds is represented as follows:

| | | Eq. | | Eq. | | | | |
|---|---|---|---|---|---|---|---|---|
| Crystalline humor | contains for | 15 | protein | 1 | sulphur. | | | |
| Casein | " | 10 | " | 1 | " | | | |
| Vegetable gelatine | " | 10 | " | 2 | " | | Eq. | |
| Albumen of eggs | " | 10 | " | 1 | " | and | 1 | phosphorus. |
| Fibrin | " | 10 | " | 1 | " | " | 1 | " |
| Albumen of blood | " | 10 | " | 2 | " | " | 1 | " |

"We have now reached the ultimate object of this theory; and the question. What insight has it afforded? is answered by a glance at the above table."

Will the reader look at it?

The first four bodies represent the protein compounds forming nitrogenous food. These substances, subjected to the action of the gastric juice, and converted into albumen, or albumen peptone containing the whole, or a part of the sulphur and phosphorus, yield to the circulation albumen of the blood ($10\bar{P}r\ 2S\ 1P$), which, by oxidation, yields fibrin ($10\bar{P}r\ 1S\ 1P$), and this, by a further oxidation, gives the radical of the blastema, the ter-oxide of protein ($10\bar{P}r\ 1P$). It appears to me that the glance is satisfactory.

But the chemists are not all united in the opinion that sulphur cannot be separated from protein. Sir Robert Kane remarks: * "Protein I consider, not with Mulder as the basis of our tissues, but as the simplest product of their decomposition." "Although it is difficult to judge among the conflicting statements on this subject, I do believe that by treatment with reagents all sulphur and phosphorus may be removed, and an organic product will remain, which may be called protein if it is so wished."

"Such," says Liebig, concluding his crusade against protein, "is the progress which animal chemistry has made in eleven years in regard to the chemical constitution of the blood-constituents. We know as much of it now as we did forty years since, not to mention that the assumption of the presence of phosphorus in albumen and fibrin, an assumption resting on the most frivolous experiments, renders the explanation of the transformation of the casein of milk into blood utterly impossible." †

Eleven years have passed since the rejection of Mulder's theory. Is physiology the better for its repudiation? Has not this science advanced in the proportion that Mulder's views have been adopted (while nominally rejecting them) either directly, or as the basis of new discoveries? I leave these questions to be answered by the common sense and honesty of the profession that is the most interested in the advance of physiology.

The protein theory is an old affair—more than twenty years have passed since it was announced. In a recent review of an equally ancient work ‡ (Todd and Bowman's "Physiological

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* *Elements of Chemistry.* Second Ed.

† "In the blood of animals belonging to different classes, in respect to their food, we observe a variation in two ingredients, namely, phosphoric acid and carbonic acid; but this difference in composition is without any influence on the properties of the blood, which retains its alkaline character. In the blood of the herbivora we find the alkali in part combined with carbonic acid; in that of the carnivora we find this carbonic acid represented and replaced by phosphoric acid, without any alteration of the character or of the functions of the blood. This is again one of the numberless facts which fill with inexpressible admiration the soul of the observer of natural arrangements, namely, that an alkaline phosphate is identical in its properties with an alkaline carbonate. Contrary to all known laws, it appears to the chemist like a miracle, that two acids, a gaseous one and a fixed one, one of the weakest and one of the strongest, which of all acids differ most in composition, can form, with the alkalies found in the blood, compounds of the same chemical character. Phosphate of soda has an alkaline taste and reaction, like the carbonate; and its solution in presence of free carbonic acid, takes up as much of that acid as the carbonate of soda does, and like it, only more easily, gives it off by agitation with air, in vacuo, or by evaporation, without losing its power of again absorbing the carbonic acid."—*Familiar Letters on Chemistry.* Third Ed.

‡ Brit. and For. *Medico-Chirurgical Review*, No. 41.

Anatomy"), we read the following paragraph: "We would cite as illustrations of the changes which fourteen years have made, the general abandonment of the notion that the fibrin of the the blood forms the basis of the muscles; and the converse idea entertained by many physiologists and pathologists (to which, however, we are not ourselves yet converted) is a hopeful sign that this substance is in a state of retrogressive, not of progressive, metamorphosis."

It ought to be a matter of regret to any man that he is ever betrayed into the verbal expression of enthusiasm, although this weakness is common enough, and even has its admirers; but what excuse can be offered for that placid form of the error which, deriving its origin from the inkstand, is, like written profanity, characteristic of folly prepense? Yet, looking back to the time of Richerand's Physiology, one may be pardoned for recording his admiration of the genius that has revealed the secret processes of organic nature—and this praise, I conceive, is due from the medical profession to Professor Mulder.

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ART. III.—*On the Anatomy and Diseases of the Prostate Gland.* Remarks of VALENTINE MOTT, M.D., before the New York Academy of Medicine, Sept. 1 and Sept. 9, 1858. Reported by GEORGE F. SHRADY, M.D., Assistant Surgeon to the New York Hospital.

DR. MOTT, after expressing his regret that he was not able to be present at the last meeting, stated that he did not know at what point the discussion was left, but he would offer a few desultory remarks on the relative anatomy of the prostate, and reserve a very interesting part—its diseases—for a future meeting. He continued:

If the Academy will indulge me, I will offer a few remarks upon a very interesting part of the subject of the prostate gland, viz., its surgical anatomy. This organ is a small portion of our frail fabric, which has not received a great deal of attention in relation to operations performed upon and about it. I cannot suppose that the pure physician will take much interest in these few remarks; but they are interesting to myself, and they may be to a certain degree gratifying to those who are more particularly interested in surgery.

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NOTE.—By recommendation of the Section on Anatomy, etc., the subject of the *Anatomy, Physiology and Pathology of the Prostate Gland* was brought up in the Academy of Medicine for discussion at the regular meeting in August. By appointment of this Section, Dr. Van Buren opened the discussion with an elaborate and highly interesting review of our present knowledge of the anatomy and physiology of the prostate. At the next meeting, Dr. Mott continued the discussion with the interesting remarks which we have the pleasure of presenting to our readers.

This gland is situated equi-distant from the basin of the ischia above the membranous part of the urethra, and upon the rectum where there is no interposition of peritoneum by the lower part of the bladder—called the Bas-fond. This prostate gland is supplied ordinarily with a fair amount of vessels. There are some circumstances, in relation to surgical matters, connected with this gland, that are exceedingly important to be recollected by every man who cuts it or about it. Small vessels, that supply it as a normal part, are very unimportant. Let us look at the vessels of these parts—let us take up the veins.

The veins are very remarkable—remarkable in their number, and as to their size, are wonderfully large. These veins are principally interesting in connection with the affections that occur in and about the prostate, as we shall see hereafter. These veins, when cut, even in the middle period of life, will emit an enormous quantity of blood; to such an extent has blood flowed from these parts after the lateral operation for stone, that I myself have been very much alarmed at its quantity, and have very much feared the consequences. In the course of my experience, which passes over more than half a century, I have met with few cases, aside from operations about these parts, that have astonished me with the quantity of blood that was lost. It seems to be very unimportant until, perhaps, a week after the operation. I have been advertised of the condition of patients at this period after the operation, and have found them almost pulseless from the loss of an enormous quantity of venous blood. There is arterial hemorrhage generally at the commencement of the operation; the amount of blood lost, however, is trifling when compared with the venous hemorrhage. The quantity of blood thus lost has almost placed the patient in articulo mortis, and I have been compelled to plug up the opening with a sponge, taking the chance of the accumulation of blood in the bladder.

Now, the veins that are about the neck of the bladder run in such a way that they are always cut by the operation I shall presently describe.

These veins are accumulated in great numbers, and under certain circumstances are in a varicose condition. This condition is not confined to the later period of life, when we find certain diseases of the prostate occurring, and those affections which are more generally known as diseases of the prostate, but in early life this condition of things is frequently noticed. This collection of veins is so large and so numerous, that they go by the name, venæ pampiniformæ. These veins run immediately over the proper capsule of the prostate gland, and they are the cause, no doubt, of the very serious hemorrhages that

take place late in life, and open upon the free surface of the bladder, where there is no disease of the prostate, no tumors of the bladder, nothing to account for the hemorrhage other than this distribution.

Ordinarily, in operations in this region, there are no vessels of considerable size involved, except these veins; but there is an artery that is occasionally met with, which runs between the proper capsule of the gland and the ilio-vesical reflection. These arteries are of considerable size, coming, as they do sometimes, from the internal iliac instead of the internal pudic; they go to the bulb, to the crus and dorsum of the penis of that side. These vessels have been described by Haller, Burns, Barclay, and also by one of the Munroes. Whenever a profuse hemorrhage occurs from an operation about the prostate gland, in which that gland is cut, and the internal pudic artery is not wounded, then it is gratifying to know that an artery of that description runs in that direction, and that when it is cut, it can be arrested by nothing but the sponge.

The surgical anatomy of this gland is exceedingly interesting to every surgeon. Its anatomy in relation to operations has not been understood well for a great many years. It has been developed quietly, and now perhaps we understand it fully.

The prostate is described as consisting of two lobes, and perhaps we are not all prepared to learn that these lobes are very ill defined after the adult period; but we know the fact, that before the fourth or fifth month, it consists of two distinct lobes, separated by an isthmus, which becomes the third lobe.

This gland has its proper capsule; it is a secreting gland, but whether it be a conglomerate or follicular gland, some are of one opinion and some of another. It is now generally believed by those who have prosecuted microscopical observations, that it is composed of a series of follicles. This question is still an object of a good deal of discussion.

This gland surrounds the urethra. I have not been of the opinion that such was the case until lately. I had supposed that this gland was composed of two lobes, that the sulcus in it about the veru montanum was in the two lobes, and that there was no gland above. The observations of Amussat, who is familiar to most of you, settled the question fully that the prostate is entire about the urethra, that it runs over the anterior part, and therefore surrounds it. We are indebted more to microscopical observations for this information than to anything else.

Besides this capsule there is another, the fascia iliaca, which was known before many others. This fascia covers the iliac muscles, goes over the pelvis under the great vessels, then down

to the side of the bladder, but before arriving there it is attached to the side of the bladder, where it forms a perfect septum between the perineum and cavity of the pelvis. This is a most important fact to be recollected, not only in regard to its situation, but in relation to the operation for lithotomy.

This ilio-vesical fascia that goes from the side of the pelvis, passes to the side of the bladder, and when we are erect the angle is more considerably above the plane of the horizon than when we lie down. The difference is perhaps equal to ten or fifteen degrees. From the side of the pelvis to the bladder it is covered by the levator ani muscle. When we get down to the side of the bladder, just above its neck, there is a close layer of this fascia which goes over the prostate, enveloping it next to its proper capsule. So far its anatomy is well understood.

In any case of operation upon the pelvis, take any subpubic operation, with one exception—the recto-vesical—any operation involves essentially and materially the direction of this fascia. The success of these operations depends *cæteris paribus*, upon maintaining the entirety of this septum, thus guarding against urinary infiltration.

A great danger in lithotomy is cutting this membrane. I maintain that operations for lithotomy ought always to be performed with reference to the course of this septum, otherwise the patient's life is greatly in danger.

There is nothing that has glorified modern surgery more than the study of relative anatomy. It has dignified operative surgery as a science, and the man who does not cultivate this relative relation operates in the dark. It is not in the power of any man to do otherwise, unless he be different from those who have lived within the last half century. He ought to be able to say how this or that runs relatively to that or this, or that or the other point. He is unable to do it unless he cultivates a knowledge of this relative anatomy.

If you will permit me, I will state a fact in this connection:

Some thirty to thirty-four years ago, one of my old colleagues, who has paid the debt of nature a number of years since, was in the habit of speaking rather jocosely in regard to relative anatomy. He would often say in relation to many parts of the body, "That is your relative anatomy." I had a case of a young lady, who came to this city from Massachusetts, with the most tormenting, distressing attacks of traumatic neuralgia that I ever saw, from a punctured wound in the sole of the foot. Everything had been tried to relieve her; it had been scarified, and I believe the actual cautery was applied. The pain was so intolerable that she had no power over her

foot. I saw the case, and seeing that it was an important one, I sought his advice. I proposed, allow me to say, that a part of the post tibial nerve be exsected. I asked, a little mischievously, How does this nerve run relative to the artery and accompanying veins? It runs behind the malleolus internus. But how relatively to this tendo achilles, and these vessels? He had taught anatomy for forty years, but surgical anatomy was not then in fashion. It run somewhere I knew—but that did not satisfy my boyish pride. I thought it important to know its exact situation; I thought that the beauty of the operation was to know exactly where to cut. Your humble servant ventured to learn it as a new matter. I went to the cadaver. I satisfied myself where it was, then I said, we will go relatively upon the nerve itself, and I laid it instantly bare.

This knowledge is beautifully illustrated in the anatomy of the groin. The relations of the epigastric are very important, running on the inside of internal ring, and on the outside of external abdominal ring.

It is not every one that teaches who points out the relations of these points. Relative anatomy is of the utmost importance; let the surgeon operate where he will, to be successful he must first familiarize himself with the relation of the parts to be operated upon. I make the assertion, that all sub-pubic operations, with the exception of the recto-vesical, involve a knowledge of the relation of this fascia which I have named, in order that the cavity of the pelvis be not opened. If these operations are to be more successful, it is because we understand our relative anatomy.

*Lithotomy.*—The common operation for lithotomy which is most in fashion, is the lateral, known from the time of old Frère Jacques. This operation divides the side of the prostate only; it goes parallel with it, and not above it, and does not open into the cavity of the pelvis. A man who would perform the operation with this reference, will be most successful.

I say, and I have said for a great many years, that all operations for the purpose of opening the neck of the bladder and cutting the prostate a little below this ilio-vesical fascia, are better done with some sort of a knife than with any other instrument whatever. I have no wish to be arrogant in this matter. I have performed a great many more operations for stone than will be performed for many years. The number amounts to over 160, and I have never used in the operation anything but a knife and bistoury. On the whole, I prefer a straight bistoury. I was occasionally in the habit of using Mr. Thomas Blizard's knife. Of the gorgets that were introduced by Cline and Physic, I consider the one introduced by Physic as the best.

Cline's is a dangerous instrument. I have seen him use it. Physic's is a dangerous one unless a man understands this relative anatomy; this was not in fashion in his day.

The knife goes through one side of the prostate; it passes below the loose layer of the fascia iliaca. I will also add, and this is contrary to the opinion entertained by many gentlemen, that I cut through the whole prostate. I never wish to tear it. If you are below this fascia you may cut to the ramus of the ischium without any danger.

Those who are not familiar with the use of the gorget, depress the hands, elevate the blades, and consequently it passes too high up, and occasions the danger alluded to. Dupuytren gave the subject great attention before he and his colleagues discovered the best plan. One took the recto-vesical, and the other the high operation.* All instruments that do not pass below this fascia are dangerous. I never cut the internal pudic artery with the knife, because I cut downwards and outwards in such a manner as not to interfere with it.

I am of the opinion that the operation for stone is most easily performed in the manner alluded to. Some cut through eleven-twelfths of the gland, and tear the rest; but remember that lacerated wounds are difficult to heal, and you had better make a clean cut. The idea has been entertained that by cutting entirely through the gland you cut this fascia, but having an eye to the course of it, there is no danger.

The bi-lateral operation is entirely free from the danger of wounding the artery; but I must say that I never saw the elder Cline, the preceptor of Sir A. Cooper, operate for stone that he did not cut that artery. I have seen the hemorrhage so profuse that the blood would run off the table in a stream and saturate the bed. I choose to avoid such consequences. These points about the prostate gland are eminently useful to us, and are of the utmost importance.

In regard to opening the bladder in different ways for evacuating urine, there is no danger except in the perineal cut. The operation *per rectum* is one unattended with danger, not involving the fascia; it is therefore to be resorted to when the bladder is to be emptied. One thing I will say, that during a long life—the many years I have practised surgery—it is gratifying for me in the retrospect, to recall this fact,—*that I have never punctured a human bladder*, though I have seen difficulties presenting themselves of the most serious character. I am always horrified when I hear that a surgeon has punctured the

* Dupuytren took the bi-lateral.

bladder. I have never seen a case of stricture that could not be relieved by the judicious application of instruments. In that disease confined to old people, I have never failed in being able to introduce a catheter, and where others have repeatedly failed, I have resorted to the long Sabatier's catheter, and have never failed in getting into the bladder.

The mode of introducing these instruments into the bladder, with a few remarks on the prostate, I will reserve for a future occasion.

SPECIAL MEETING, SEPT. 9, 1858.

MR. PRESIDENT: There is a remark or two that I will subjoin to those which I made at our last regular meeting in relation to the coverings of the prostate. Besides the proper covering, this gland has another covering or capsule, which is the ilio-vesical reflection of the fascia iliaca, as it comes from the side of the pelvis, and goes to the side of the neck of the bladder. We have also in this situation the levator ani muscle, covering both portions of the fascia iliaca. In order to demonstrate this muscle fully, it is necessary that we should make a careful dissection by detaching it from where it covers the ilio-vesical fascia close to the pelvis, turn it down from this, and from off the prostatic portion. If we raise it in that way, we shall come to the median line of the prostate, and will there see that the muscle from the other side unites with the one which we were dissecting at the mesial line.

The prostatic portion of the levator, as well as where it slings the membranous portion of the urethra, must be cut in the lateral operation for stone in the bladder.

This muscle, therefore, covers not only the ilio-vesical reflection of the fascia iliaca, but the prostate also, so that at this point the muscles coalesce completely. The sinus pocularis or utriculus prostaticus, situated a little in advance of the veru montanum, has been considered by Weber as a rudimentary uterus, a homologue of that important organ; probably because Morgagni found, in two instances, that the vesiculæ seminales terminated in it.

In a surgical point of view, this little cup ought to be recollected, as a catheter or bougie will be caught in it. This can always be remedied by an experienced surgeon, by withdrawing the instrument a little, and tilting it up before passing it into the bladder.

The veins about the neck of the bladder, especially in persons advanced in life, will have in them what are denominated by pathologists, *phlebolites*. I have a specimen in my museum which beautifully illustrates this fact. Some of these veins are almost always cut. They are not always in a varicose

state; but, whenever they are in this varicose condition, there will be frequently a great deal of hemorrhage when an operation is performed about these parts. These do not bleed during or immediately after the operation; but in the course of five or six days, or a week after the operation, I have known the most profuse hemorrhages to occur—hemorrhages that were truly alarming, so much so that I have been compelled to plug up the wound with a sponge and ice, leaving a catheter in the bladder for the escape of the urine. I have come very near losing my patients a week after the operation from these terrific hemorrhages. I know them to be venous, because they have the character of venous blood. This hemorrhage seems to be confined to operations that are performed after the age of fifty years. In my experience, I have operated after the age of seventy, and I have not found these veins so troublesome in the advanced stage of life, as in middle life.

The uni-lateral, or bi-lateral operation does not avoid cutting these veins; the only way is cutting above the pubis. Very few persons in this country do this.

I will endeavor now, Mr. President, to abridge my remarks upon the very interesting subject that is to follow, viz.: the *Diseases of the Prostate Gland.*

The morbid anatomy of the prostate gland is exceedingly interesting, because it involves so many terrible and afflicting affections, and, as such, it is deserving of the closest attention on the part of the surgeon.

It is a very singular fact, one that deserves to be mentioned, although we read about it, and pass it over without thinking of it as it deserves, that this body will frequently enlarge, when other parts of the body are diminishing and shrivelling in the decline of age. This is, indeed, a formidable disease, which, in too many cases, is out of our power to relieve. The pathology of this gland becomes peculiarly interesting, because it ought to have associated with it other diseases besides mere enlargement. This is considered, by gentlemen of the profession who do not read much, to be the only disease of the prostate. There are affections of it that are very formidable besides the mere hypertrophy.

But first I will call the attention of the Academy, for a few moments, to what is termed *atrophy* of this gland.

This gland, then, has been found diminished in its natural size. The proper capsule has been found to be filled with an aqueous fluid. The gland, then, can be atrophied, as well as hypertrophied. This gland has been described in this state by several pathologists, and by two particularly, Sir B. Brodie

and Mr. Cooper, who found it as I have stated. This disease is not necessarily confined to old age, neither to youth; it seems to follow no stated law, but occurs at almost any period.

*Inflammation* of this gland occurs more frequently than, perhaps, many of us are aware. I am perfectly well satisfied, that inflammation of this gland is of very frequent occurrence —whether it be the secretory portion, whether it be the filamentous or areolar tissue of the gland, I shall not stop here to discuss. My impression is that it is an inflammation of the entire tissue of the gland.

The prominent symptom is, remarkable tenderness on introducing the finger into the rectum. When this extreme sensitiveness exists, with difficulty of passing water, it is evidence to my mind that the gland is very much inflamed.

We know perfectly well, also, that suppuration occurs in this gland, and produces a great deal of mischief. Lallemand, among others of distinction, states that the whole gland is inflamed. And he goes so far as to state that the openings of the gland into the urethra pour out the pus. This shows, conclusively, that the gland is inflamed. Sir Benjamin Brodie cites a case in which more than a pint of pus was discharged, from time to time, from the urethra.

This inflammation may be caused by the violent use of instruments. I say violent; this is too frequently the case. There never was a better axiom in surgery, "Make haste slowly," particularly in introducing instruments into the bladder. The violent use of these instruments, intense sexual indulgence, as well as urethritis, are capable, then, of producing deep suppuration in the gland itself. I have a specimen in my museum in which there is an abcess in one lobe, which caused retention of urine, in which the practitioner was unable to pass an instrument, and making use of violence instead of knowledge, forced the catheter through the membranous portion of the urethra, a little above the apex of the prostate, and into the side of the neck of the bladder. The retention was relieved, but the inflammation that followed was fatal.

*In suppuration in this gland*, the pus generally takes the route into the urethra. Hence, Lallemand states that he has seen the openings from the prostate large enough to admit the end of a catheter, from which openings pus escaped into the urethra. The matter will sometimes make its way through the rectum, sometimes into the perineum, instances of which I have seen. I have also seen an opening through the urethra just at the apex of the prostate. In one case I found an opening into both rectum and perineum. Both fistulæ were opened to the

apex of the prostate. The cure was complete. A catheter was constantly used.

I now remember seeing two very forminable cases, about a year since, of this sort, which are not yet entirely cured. Upon both these I operated with a view to close the recto-urethral opening. In one instance, there was an opening into the perineum and urethra of some years standing. I laid open the urethra from the fistula that was in the perineum, completely into the rectum and a little above this fistula that entered the rectum; the urethra was so sound, and he was so desirous of not being annoyed by the catheter, that I indulged him. I thought he might get along, as the uretha was so perfectly good that a few drops of urine only occasionally came down from the rectum. Upon close examination there was found an opening into the rectum which has not yet entirely healed. He has now returned from the South, and, in a few days, will put himself under my care again. During the winter he has been cauterized, but with no good result. He has a full knowledge of his case, and is willing to risk another trial.

I recall another instance, with which I know a gentleman before me is also acquainted. The case to which I refer is a medical man.

He has no disease of the prostate. There is an opening into the urethra, and also into the rectum. We attempted an operation, and it failed. I laid open the fistula upwards and downwards, above the apex of the prostate, and so down into the membranous portion of the urethra, hoping that it might close. He was unwilling to wear a catheter.

The doctor was, as all doctors are, exceedingly restless and irritable. He thought he could get along by care and attention; but, unfortunately, it has not healed. His greatest suffering arises from the passage of some of the fæces by the urethra.

These remarks are not extraneous to the subject, inasmuch as they are all connected with suppuration of the prostate gland. Since we had this gentleman under care, he has been subjected to the division of all the fistulous openings, and an attempt was made to effect union by means of the silver wire suture, but it failed. He is now in a melancholy state, being constantly annoyed by fæces passing into the urethra and mixing with the urine, causing him to be an object of disgust to himself. These, then, are instances of the effects of suppuration about the prostate.

In one instance that is fresh before me, I fortunately relieved a gentleman who was of some consideration, by opening the

abscess that was directly between the rectum and prostate gland, so that he was no longer annoyed by difficulty of micturition. When I first saw him, no instrument could be introduced. I took my prostatic catheter, which is two inches over the common length (the noble idea of the immortal Sabatier), and it passed without the least difficulty, and drew off the urine. Evacuating the bladder of water, I then examined per rectum, and found a large fluctuating tumor directly over the prostate and the membranous portion of the urethra. I felt the tumor very distinctly in that situation, and by separating the anus sufficiently, I was enabled to look in and see the bulging that was caused by the presence of this fluctuating mass. I introduced a bistoury, when a large quantity of pus escaped, and he had no more trouble. The inflammation of the prostate may be followed by the deposit of a large quantity of matter. Brodie says, that as much as a pint was discharged from a case that he saw; not, however, at one time.

The prostate is not generally the seat of *ulceration*. This is a process in it that is not common. It has occurred from the introduction of instruments into the urethra, which has first caused inflammation, the accumulation of pus, then pressure upon the gland, and ulceration. This ulcerative process follows. Excessive onanism and intense sexual indulgence will give rise to this inflammation.

I have known this to follow such indulgence where death has been the result of the suppuration that has thus been induced. Intense sexual indulgence, then, will produce this form of difficulty. This is attended with a great deal of pain and tenderness in the perineum, a fact which is denoted strikingly by the introduction of the finger *intra rectum*.

These abscesses in and about the prostate, will open, not only into the urethra, as probably was the case in the patient whom Brodie describes where a pint of matter was, from time to time, discharged, but they will open into the rectum, as in the two instances of gentlemen, both of whom were patients of mine.

*Tubercles* are occasionally met with in the prostate. These tubercles go on from softening to progressive ulceration. We have an instance recorded by Lallemand, where thirty of these abscesses were found, and as many tubercles. It must have been considerably hypertrophied. Therefore the prostate gland is liable to have the same condition of things existing as we find in the testis, mesenteric glands, vesiculæ seminales, or where it is most frequently met, and where you are all acquainted with its existence, in the lungs.

Dr. Gross, well known to the gentlemen present, if not per-

sonally, by reputation, related a case where tubercles existed in this gland. He states that they follow the law of tubercles in other parts of the body.

Again, the prostate is said by some to be affected with *Cancer*. If we adopt the language of Mr. Walsh, that all forms of diseases that are heterologous are cancerous, we may consequently have it in the prostate gland. I prefer the old arrangement of cancer and malignant disease—or what does very well, hard and soft cancer. I am very well aware that they both have the microscopic characters of cancer.

These malignant forms of disease occur within and about the prostate. The body of the prostate is not so apt to be involved as in other forms of hypertrophy. There are three instances on record, one by Sir Astley Cooper, another by Mr. Stanley of London, and another by Langstaff. These three instances of malignant disease connected with the gland were in children. Therefore, malignant and serious disease of the prostate is not necessarily confined to old people.

In Stanley's case there was a tumor about the size of an orange connected with the third lobe; this tumor was soft, and was the product of a malignant formation. One of these cases was in a child 8 or 9 years of age, and the other two were during early boyhood. The great Dr. Fothergill of London died of malignant disease of the prostate. Great he was in every sense of the word. His name is known to most of those who read, but he is better known to some of us who have known his pupils and friends. Such was the character of the disease that as it grew upon him, it completely closed up the urethra, and his water had to be drawn off. He was one of the most remarkable men that ever lived, not only as a sound and noble physician, but one of the most extraordinarily virtuous men that we have any record of. He was attended by his friend and contemporary the illustrious Percival Pott—who would joke with him in relation to his bachelor life. On one occasion he said to him: "Well, sir, considering you have always lived in London you have a remarkably good urethra." "Percival," said he, calling him by his first name, "this instrument," referring to his penis, "has never been used for any other purpose than to draw off my water."

I had a case, a few miles from the city, some years ago, which was evidently a fungous growth about the prostate. It was, as in Dr. Fothergill's case, of a malignant form or soft cancer. I choose to give it that phraseology. Whenever an instrument was passed, it would plainly enter the fungous mass, which would bleed freely. He ultimately died.

I have seen another instance where the tumor was not of the

prostate, but a polypous growth, which acted as a valve, and gave rise to the most marked symptoms of stone in the bladder. This ought to teach us that nothing but a sound, grating against another hard substance, should justify the operation for stone in the bladder.

Under the head of Cancer, I will mention a case that I had in conjunction with my friend Dr. O'Reilly, who is probably not known to most of you, but who is an excellent Irish surgeon. In this case, I thought that there could be no doubt of the existence of this disease. The patient died, but no post mortem examination could be had to verify the diagnosis.

*Senile Hypertrophy.*—Most persons who have read a little are led to believe that this is the only difficulty of the prostate gland. This is the last affection that I shall name. The occurrence of this affection in old age is afflicting in the extreme, inducing a melancholy existence, and embittering the last hours of life with agony almost insupportable. I do not mean to say anything of its pathology, but simply speak of it as an enlargement of the gland. It is curious that it should occur in advanced life and be confined to the gland itself. A dissolute life is not necessary to produce it. We may instance the case of Dr. Fothergill. A bishop, a pleasant old Catholic gentleman had this affection. I told him, I thought, considering he had lived in Rome for 33 years, he had a remarkably good urethra.

There are different phases to this enlargement. The most tormenting part of this enlargement is the third lobe of Sir Everard Home—the pathological lobe of Velpeau. Before the time of Amussat, the surgeons were in the habit of speaking of the gland as being divided into two lobes.

Most of the cases occur in advanced life, and hence the name senile. It is remarkably hard in its texture. Brodie speaks of it as having a stony hardness; Rokitansky, as a fibrous enlargement; others denominate it cystic hypertrophy, on account of the cysts found in it. Travers speaks of it as of scirrhous hardness.

This enlargement comes on very gradually, and is not accompanied at first with a great deal of pain. The first symptom is difficulty in evacuating the last drops of water that are in the bas-fond of the bladder. Change of position has to be frequently resorted to. All persons with this difficulty make water better standing up. Some are obliged to get down on their elbows, so as to give the bladder a better opportunity to force the urine over the third lobe.

The treatment of this affection, as it respects remedial means, puts us at defiance. With all our resources we can make very

little impression upon the prostate affected by senile hypertrophy.

If you will allow me, I will state some few facts connected with the difficulty of passing water, and the treatment, more particularly.

It is of great importance, in a difficulty of this kind, that a person should not have his bladder over-distended. I knew a gentleman, a merchant, who carried a catheter in his side pocket for the purpose of relieving himself. Everything that removes irritation is of the greatest importance, therefore it is often requisite to relieve the bladder by means of the catheter.

I know of no treatment other than palliative. We had some reason to hope, when iodine was discovered, that this great alterative would be productive of a vast amount of good; but this disease seems to baffle everything.

I have seen more good derived from a seton in perineo, at the same time keeping the bladder empty and the bowels soluble, than anything else. In that way, the poor subjects of this malady linger on a little longer.

Can this third lobe, the pathological lobe of Velpeau, upon which nothing can seemingly act with any benefit—can this lobe, I say, be removed? This is a great question to ask, and a very difficult one to answer. I have some instruments here, which, with your permission, Mr. President, I will show the Academy. They are calculated to get hold of this third lobe and remove it—that is, if the difficulty be in that third lobe. The main difficulty is in this lobe, which has been the isthmus that has been formed to constitute the gland one entire mass after fœtal life.

Lastly, and not I hope to be tedious, let me call your attention to another matter, which I have left purposely to the last, from the fact that it is a very puzzling thing. It is very analogous in appearance to what old Father Pelletan called "Engorgement chronique de la membrane du larynx"—a most admirable simile. I mean the *uvula vesicæ* of some—the *luette vesicale* of others. Dr. Baillie first described it as a membranous fold, in the form of a bar across the vesical orifice of the urethra, and has given a plate of it in his morbid anatomy. Guthrie revived our knowledge of it among the English surgeons. Some give him the credit of originality. Mercier calls it the urethro-vesical valve. Amussat denominates it valvula pylorica. Le Roy d'Etiolle styles these folds bourrelets.

Immediately at the neck of the bladder there will be an enlargement of the mucous membrane, sometimes from above downwards, but more generally laterally. This gives rise to a

good deal of difficulty in passing the urine. The catheter passes readily sometimes. It is very difficult to form a diagnosis between it and enlarged prostate. In the uvula vesicæ, the catheter passes very readily. In prostatic enlargement there is frequently great difficulty.

This state of things exists sometimes without any hypertrophy of the gland, in which case the catheter will pass in more easily. Any instrument passed into the bladder will generally be followed by a small discharge of blood, which alarms the patient, who thinks it arises from want of skill on the part of the operator, whereas it is desirable and beneficial. In the opinion of Guthrie, this is a curable affection. Le Roy d'Etiolle has great confidence in scarifications. I have seen him make them. These, with the application of caustic, constitute the principal means of treatment.

I have endeavored, Mr. President, to sum this up in as small a space as possible; as it is, I give it as a mere epitome—a mere résumé of my knowledge concerning that interesting subject—*the Pathology of the Prostate Gland.*

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ART. IV.—*Obstetrical and Medical Cases.* By GEORGE T. ELLIOT, JR., M.D., Physician to Bellevue Hospital, the Nursery and Child's Hospital, and the Lying-in Asylum.

*Case* 1.—*Peritonitis with perforation of the appendix vermiformis in a boy.* This lad was eleven years of age, active, manly, and very intelligent, though small for his years, having no predisposition to disease.

April 9th, 1858.—Apparently not very bright this morning, and in play with a comrade, received a blow on the abdomen which left him breathless for a short time, after which the effects passed off.

Vomited his dinner, and then complained of severe pain in the abdomen, paroxysmal and colicky in character, for which many domestic remedies were used. During the night it increased and was aggravated by pressure. Some castor oil given by his mother.

10th.—I saw him in the afternoon, and found his abdomen tender to the touch; respiration hurried; expression anxious; pain, although constant, yet aggravated in paroxysms, and on the increase, but not localized. The oil had just operated three times, the last two consecutively. He had been unable to strain at all and desired to be carried back to bed, a striking symptom for a boy so remarkably self-reliant.

Peritonitis diagnosticated; fomentations under oiled silk, and a drachm of paregoric.

4 P.M.—Sufferings very great, writhing in bed as much as possible without moving his abdomen, and seeking relief in careful change of position. Knees drawn up. Respiration thoracic. Pulse 130. He fancied that if he could press his stomach on a pillow, some relief would follow, but cautioned his nurse to move him very carefully. The position was, however, unendurable an instant. No especial localized site of abdominal tenderness. Six leeches to abdomen.

8 P.M.—Greatly relieved—pulse 120. Disposed to sleep. Decubitus dorsal—legs down. Respiration 36.

9. P.M.—Dr. Alonzo Clark saw him with me in consultation, confirmed the diagnosis, was struck with the effect of the leeches, and the opium treatment was commenced.

10 P.M.—Pulv. opii gr. ss. Slept from midnight till 4 A.M. April 11th, when he was assisted up and made water without pain. 7 A.M.—Lies with his knees up, afraid to cough for fear of pain; tenderness of abdomen very marked. Pulse 114. Pulv. opii gr. ss.

11 A.M.—Has slept since 10 o'clock. Pulv. opii gr. ss.

11.45.—Pulv. opii gr. ss.

2.40 P.M.—Pulv. opii gr. ss. Has slept most of the time. Appears more cheerful—voice stronger—stretches his legs without pain, though the knees are generally raised when he sleeps. 6 P.M.—Dr. Clark's visit. Has slept most of the time since last note. Respiration 36, pulse 116. Moderate pain on pressure, especially marked over the lower part of the stomach. If there be any difference the right leg is moved with greater facility than the left. 10 P.M.—Pulv. opii gr. ss., and in an hour a blister, 3 × 4, over abdomen. 11.30.—Asleep. Resp. 24.

April 12th, 12.45 A.M.—Pulv. opii $\frac{3}{4}$gr. 3.15.—Blister removed. Awakens readily; moves limbs with more freedom. Pulv. opii gr. ss. 5 A.M.—Has slept with his legs down three quarters of an hour. Pulv. opii gr. ss. 8 A.M.—Passed water with more freedom than since yesterday. Raised much wind. No nausea. Resp. 24. During the night has had small quantities of beef tea and jelly. He now took a cup of tea which he threw off with much wind, being greatly relieved thereby. 8.40. A.M.—Pulv. opii $\frac{3}{4}$ gr. Perspires freely. 10.45.—Position of legs has become a matter of indifference. Decubitus always dorsal. Complains of itching. Pulse, 100; respiration, 28. 11.45.—Pulv. opii gr. ss. 1.45.—Complained for an instant of sharp abdominal pain. 2.30.—Pulv. opii $\frac{3}{4}$ gr. 4.30 P.M.—Dr. Clark's visit. Blister has drawn well. On auscultation intestines found absolutely still. Respiration more abdominal. Pulse 100; rather less sensitiveness to pressure over abdomen. Face of good color and expression. Skin rather hot. Dislikes

the powders. Laudanum substituted. 5 P.M.—Tinct. opii gtt. xviii. Has slept most of the day. Now slept from 6–7.15. —8 P.M.—Tinct. opii gtt. xx. Free from pain. Raised a quantity of wind. Passed water freely. 11 P.M.—Has been quiet. Respiration unchanged. Pulse somewhat irregular, with tendency to fall. Tinct. opii gtt. xx.

April 13th, 1.30 A.M.—Has been less quiet in his sleep. Dreaming much. Made water. 3.15 A.M.—Tinct. opii gtt. xx. 5.20—Has slept a great deal, and seemed excited. Tinct. opii gtt. xxv. 7.30.—His mother has carefully estimated his respiration when asleep at 16. Pupils not much contracted. Seems fresh and looks well. Pulse 104. Tongue with light fur, but clean tip and edges. Tinct. opii gtt. xxv. 8.30 A.M.—While asleep, respiration 12. 11 A.M.—Dr. Clark's visit. Pulse 106. Respiration 10. No increase of tympanites, and certainly no increase of tenderness. 12, Noon.—Tinct. opii gtt. xxx. Fell immediately into a deep sleep which lasted till 1.40. 3.50 P.M.—Tinct. opii gtt. xv. Respiration has been steadily at 12 while sleeping. Made a little high-colored urine with difficulty. After having been thus anxiously engaged, and held up in bed, the pulse is at 100, and respiration 14. Does not perspire. Abdomen more tense. On careful auscultation, slight borborygmus. 6.50 P.M.—After an hour and a half's sleep, tinct. opii gtt. xx. 7 P.M.—Passed water without effort or pain. 9.15.—Passed water with ease. Sleeps much. Perspires. 11.30 P.M.—Tinct. opii gtt. xxv.

April 14th, 12.10 A.M.—Made water with little difficulty. 2.20 A.M.—Has slept most of the time, but complains of "hardness" in the lower part of his stomach, and nausea. 3.45 A.M.—Tinct. opii gtt. xxv. 6.15.—Has slept; tinct. opii gtt. xx.; pulse 92. 7.40 A.M.—Pulse 96; tinct. opii gtt. xx.; urinated freely without pain. 10.30 A.M.—Dr. Clark's visit. Pulse 96; respiration 18. Expression good; tympanites markedly increased since yesterday; tenderness not increased. On auscultation, intestines appear slightly to contract. Ordered a spearmint fomentation, and a little cayenne in his soup—which he did not like. Noon.—Tinct. opii gtt. xxv. Tried ineffectually to pass water. Slept a couple of hours, and made water. 2 P.M.—Tinct. opii gtt. xxv. Respiration 18; pulse 100. Raised much wind, followed by momentary sharp pain. 3.15 P.M.—Tinct. opii gtt. xx. Vomited his soup. His thirst during the day has been great—craving very cold water. Abdomen decidedly more tympanitic since morning. 5 P.M.—Has once or twice vomited a clear fluid, with some shreds of beef from the tea. Pulv. opii $\frac{3}{4}$ gr. 6.30 P.M.—I had been absent for an hour and a

half. On my return found him with hands cool. Expression haggard; pulse, 130, and weaker; respiration thoracic and hurried. Sent for Dr. Clark, who promptly came, and we concluded that he had not more than one hour to live, so rapidly did he sink. He was now vomiting a coffee-ground looking material, straining greatly. Intelligence unclouded; aware of his fate, and, like the noble little fellow that he was, thinking of others, and busying himself in bidding farewell to those around, and in remembrance of the absent. His pulse would flicker at the wrist, and would again return, and was strengthened by wine and water. By midnight it had finally ceased below the knees and elbows. Mild delirium set in during his snatches of sleep, increasing towards the morning, when he struggled violently to get out of bed, picking also at the bed-clothes, but still rational at intervals, and obedient to those he loved. By half-past six, April 15th, his respiration became automatic, and he died. Blueness of the hands and feet had not been well marked. The vomiting had persisted with some slight relief before death. Rigor mortis came on almost immediately.

*Autopsy* ten hours after death; weather moderate—the body having been two hours in ice. Present, Drs. Clarke, Geo. A. Peters, J. W. S. Gouley, and myself.

Countenance much altered, and stained by the post-mortem purging from the mouth. Depending parts much discolored. Abdomen alone examined.

On opening the cavity, no gas but some little serous fluid escaped. Intestines tympanitic and agglutinated together by lymph. In the right lumbar region sero-purulent fluid escaped from a cavity formed by peritoneal adhesions. The agglutination of the intestines became still more apparent as the cœcum was approached, while a faint gangrenous odor was noticeable. Intestines covered with a thick layer of lymph over the non-adherent portions. Vermiform process adherent, bent inward, and attached partly to the colon and partly to the ilium. A gangrenous ulcer on its inferior and unattached surface, about three-quarters of an inch in length, and about half the diameter of the appendix, terminated below in a perforation. At the upper end of this ulcer, the appendix contained a foreign body three-quarters of an inch in length, filling and moderately distending the appendix. Several small pieces of matter, apparently feculent, lie free in the iliac fossa, near the perforation, the largest being about the size of half a dried pea.

Intense peritoneal inflammation extended into the true pelvis, adhesions of rectum and bladder confining purulent

deposits. Bladder firmly contracted. Kidneys and liver apparently healthy—the latter having its peritoneal surface coated with lymph.

Cœcum and appendix with contents removed and exhibited to the Pathological Society.

*Examination by Dr. Clark of foreign body removed from the appendix.*

The specimen was formed by six distinct layers, which, like those of the cornea, were susceptible of further division; these inclosed a nucleus, somewhat larger than a mustard seed, formed of condensed fecal matter, and the refuse of food. The layer immediately enveloping this nucleus displayed under the microscope very numerous fragments of the pericarp of wheat, with spiral vessels of the raspberry seed, and the spines from that or the strawberry seed, hardened by calcareous matter, which effervesces and disappears under the mineral acids. The other layers were similarly composed of condensed fecal matter, hardened by the calcareous deposit, and the outer shell was roughened with slightly projecting, uneven elevations with whitish spots. Under the scalpel, the whole gave a grating sensation from the calcareous constituents; and on exposure to the air, soon lost even the comparative flexibility which distinguished it when first removed from the body; and on section, looked not unlike a calculus.

*Remarks.*—It is more than probable that this case could have terminated in no other way than death; and the review of treatment only makes me regret that the leeches and the blister had not been omitted. They annoyed the patient fruitlessly, notwithstanding the apparent benefit which followed the leeches; and it is a grave question for consideration, whether they may not be entirely dispensed with in these cases of peritonitis occurring in children of this age. We are apt to do so many things in order that we can have the happiness of reflecting that nothing was left untried, if the case terminates unfavorably; and we often so multiply our agents, that we scarcely know which deserves the credit of success. But in either event, the delightful effects of opium are here patent to all. To exchange such agony as this little patient suffered for perfect repose, without disturbance of the brain, would alone stamp the agent as invaluable, though its curative effects were denied; but when both are admitted, its neglect would be unjustifiable.

Said a gentleman to me, just as he came under the influence of morphia exhibited for this very disease—"God bless the man who discovered morphine!" And it will be long before I forget the agony of one poor boy with peritonitis, as described

to me by his mother. His treatment had been strongly antiphlogistic, purgative, and mercurial; and his mother said that while yet strong enough, he would trail himself on his elbows, and dash his head against the headboard in desperation.

Since March, I have seen two cases of peritonitis in children about the same age as the one here narrated; one with Dr. B. F. Barker, where opium was perseveringly relied upon without antiphlogistic or alterative treatment, and resulting in perfect recovery; the other, which I saw during the first forty-eight hours of the disease, died on the fifth day—no post mortem made. In this a mixed treatment was resorted to, but the symptoms were of such a character as to convince me that perforation had occurred.

*Case* 2.—In this connection I cannot refrain from introducing my notes of a case of Ileus which I saw in the service of Andral, in 1850.

A. B., about thirty years old, robust, and well formed, came into Andral's wards, on account of severe abdominal pain. He had been indisposed for some days, and, after an ordinary dinner, was seized with frequent vomiting followed by the pains from which he yet suffered. No movement of the bowels for the last three days. Abdomen tympanitic, but presenting no tumor, nor can one part be recognized as more sensitive than another. Invagination suspected, and strong purgatives recommended. This patient lived two weeks. The purgatives were ineffectual, and two days after admission fecal matter was vomited. Purgatives were discontinued, and nothing but selzer water and ice given, with ice to the abdomen. Under this treatment, the vomiting ceased, and the pain was relieved. At the same time, Andral ordered frequent injections of iced water during the day, which brought away nothing but inspissated mucus. Thus he lived during two weeks, with a pretty fair appetite, without apprehension and without symptoms of fever or peritonitis. But at last a sudden change took place, and death followed in a few hours, with the signs of intestinal perforation. The autopsy disclosed an invagination with perforation of the small intestine, at about two feet above the cœcum. Above the invagination the intestine was greatly distended and reddish, although empty.

*Case* 3.—I remember at this moment a German woman entering Bellevue, with greatly hurried respiration, and haggard countenance. While the nurse was arranging her in bed, I placed my hand on the abdomen, and recognized a tumor, the patient shrinking from the touch. Postponing further examination until the nurse had cleansed the patient, I went to

visit others, and returning in less than an hour, found her dead.

The tumor consisted of an immense fecal distension of the transverse colon; the intestine being perforated at this site, and intense peritonitis existing. Dr. J. R. Buist was the house-physician.

*Case 4. — Measles — Convulsions — Death — Autopsy — Remarks.*—The history of the following case has always been interesting to me from its unusual character. The symptoms are so like those of scarlet fever as possibly to lead to the belief that I did not accurately diagnosticate the eruption; but from the time when I first saw the patient, I was with her night and day, and the notes of the previous history were carefully gathered from the concurrent testimony of the relatives and two attendant nurses, and it is my conviction that the eruption only made its appearance during the short period of time noted. Unless the characteristic symptoms were those of measles, then I am obliged to recognize a class of cases in which scarlatina and measles cannot be distinguished from each other—a proposition not agreeing with my expérience thus far.

L. R., aged one year, weaned, robust, healthy, well-formed girl, has three incisors and a fourth pressing on the upper gum. Feb. 2d, 1857.—The nurse has thought her somewhat indisposed for a few days, but to others she has appeared as well as usual. Vomited to-day her breakfast as soon as eaten. Drowsy, listless, and irritable through the day. Face and back of head flushed. Respiration somewhat oppressed. Mustard foot-bath, and paste to chest. Feverish and irritable during the night.

Feb. 3d.—Stomach continues irritable. Bowels moved three or four times. Passages offensive, with whitish lumps. At noon a dessert spoonful of oil was given, some strabismus of right eye having been noted before that time. At 1 P.M., three sharp shrieks preceded a violent general convulsion, leaving the left side rigid for some time after the attack.

I saw her at 4 P.M., when she was apparently unconscious; moaning, hoarse voice; eyes staring; pulse very rapid; skin hot; face flushed; tongue natural. No eruption on body or fauces. Lanced the gums freely. Presently, while examining the child, as it lay naked before me, I observed marked strabismus of the right eye, and fixedness of the left; protrusion of the tongue; rigid trunk and limbs; suffusion of face and eyes, followed by marked epileptiform convulsions; jaw moving laterally, but not perpendicularly; hands tightly flexed on the thumbs and wrists; toes and feet strongly flexed. Marked opisthotonos, and right pleurosthotonos, merging again into

opisthotonos. Convulsion lasted about ten minutes, leaving the entire body rigid for about the same length of time, and ending with stertorous respiration. Hot bath.

5.30 P.M.—Four cups to back of neck and lumbar regions. Two single scarifications and then two cups over each. 7 P.M. —Another convulsion less violent and without pleurosthotonos. Passes water freely. Injection given with little or no effect; and at 9 P.M., another dessert spoonful of oil.

Feb. 4th, 1 A.M.—Unconscious still, sleeping quietly. Face less flushed; pupils now and before natural. Injection repeated and followed by two large and healthy looking passages. 8 A.M.—Pulse 160 hard, pupils as before; no return to consciousness; very thirsty; no eruption; stomach irritable. Another cup to nape of neck. 1 P.M.—Quiet, sleeping naturally as before; unconscious. 2 P.M.—Eruption of measles on ears, neck, arms and thighs; perfectly crescentic, elevated and characteristic. 8 P.M.—In the same state of stupor; eruption intensely developed. Blistering collodion to both temples.

Feb. 5th, 8 A.M.—Both temples blistered; pupils as before, responding equally to light; child unconscious as ever; resp. 53, pulse 164. Eruption has disappeared entirely since last evening and cannot be brought back. Throat sore and red, and tongue reddening like that of scarlet fever. Swallows, however, without any difficulty. Mustard bath again, and blankets steeped in hot water and sprinkled with mustard and cayenne pepper around the child.

From this time my little patient steadily sunk. Swallowed perfectly well till about twelve, when the stupor became more and more intense, and she died quietly in the afternoon without any return of the convulsion and without having exhibited a gleam of intelligence from the time of the first convulsive seizure.

*Post mortem examination.*—Permission obtained to examine the head alone. Present, Drs. C. E. Isaacs and G. A. Peters.

On removing the dura mater, an excess of pearly opaque fluid seen beneath the distended arachnoid, arborescent vessels containing some red, some black blood, ramifying over convex surface of hemispheres, especially noticeable over the posterior surface of right hemisphere, where they were distended to the size of a goose quill; surface of corpus callosum healthy; veins in the fissures of Sylvius on both sides as large as goose quills; all sinuses at the base of brain greatly distended. After removal of the brain about ʒij of serum remained in the skull. Weight of brain thirty-seven ounces.

On slicing, both hemispheres display greatly increased vascularity. The lining membrane of the left lateral ventricle

greatly thickened and tenacious, as in hydrocephalus; can be lifted bodily with the forceps, the super-imposed cerebral tissue having been scraped therefrom—this tissue not being softened; some of the white substance lying on a portion of the right ventricle so hard as to be scraped with difficulty. Ventricles contain a normal amount of serum; choroid plexus markedly congested; velum interpositum showing great congestion of a vivid red color, and veins on the surface of the corpora striata apparently enlarged; fornix and corpora quadrigemina natural. Optic thalamus of left side presented on section a whitish granule displaying nothing noticeable under the microscope. Cerebellum, crura and pons healthy. Puncta vasculosa everywhere remarkable.

*Cases of sciatica treated by injections of morphia.*—My colleague, Dr. Barker, brought back with him from Edinburgh one of Andrew Wood's instruments for injecting living tissues with various medicated solutions. It consists of a small graduated glass syringe with canulæ so slender as to be inserted deeply without drawing blood. Tiemann has made them for me since, using an India-rubber syringe of the smallest size. I regard it as a very useful instrument, with which we can often relieve local pain in the most delightful way; and have used it in a great variety of cases—for headache, without much, if any, success; for infra-mammary ovarian pains, with temporary relief; for insupportable neuralgia of uterine and ovarian origin, with similar results; and on one occasion, in Bellevue Hospital, the relief from its use was most prompt and remarkable. A poor man, dying from an obscure intra-thoracic disease, suffered horribly with angina pectoris. When I passed through the ward he was groaning and doubled over in bed. I injected the usual quantity of the solution over one of the floating ribs on the left side. In a very few minutes he fell asleep. It is necessary to be somewhat careful with the amount of morphia used, as the effect is sometimes of the promptest, and not previously to be appreciated. Wm. Tompson was on more than one occasion intoxicated by the agent thus introduced, as was another man now under treatment, whose case may be published hereafter; and once when I injected about gtt. xx. of the solution of the acetate of morphia (gr. viii. ad ℥j.) into the gluteal muscles of a lady suffering greatly from neuralgia, depending on ovarian irritation, she had not time to walk from the bed to a sofa in the same room before she was under the influence of morphia. All that I have ever found necessary has simply been to let them sleep off the effects.

The abscesses appearing in Wm. Tompson's case were the only ones that I have yet seen, and in the opinion of the pa-

tient, they were not to be compared with the relief derived from the injections.

*Case 5.—Another patient in the same ward, about fifty years of age, was treated for sciatica in this way and cured.* Unfortunately, I have no notes of his case.

These injections were constantly made in the presence of the class attending my clinical lectures; and it was interesting to note the pleasure with which the two patients anticipated the injections, and the apparent gratification with which they pointed out the painful spot in the hip, thigh, or calf, where they sought relief.

*Case 6.—Dr. Andrews, house physician; Dr. B. F. Maury, senior-assistant.*—Wm. Tompson, 27 years of age, butcher. Aug. 6th, 1857.—The patient, a hale, hearty man, was seized with pain commencing in the left gluteal region and extending thence along the course of the sciatic nerve, down the thigh, and into the calf of the leg. After submitting to treatment without relief, he applied for admission into Bellevue Hospital Dec. 2d, 1857. No febrile disturbance, but intense pain, and the limb is so drawn up as to produce great deformity and render a crutch necessary when the patient leaves his bed, where he was obliged to remain most of the time when he came under my observation. Patient's general condition good; digestion and the other important functions well performed; no indication for tonics. Alteratives, anti-spasmodics and narcotics produced only temporary relief. Cupping, leeching and blistering along the track of the nerve had no better effect. The acupuncture also failed.

Feb. 27th, 1858.—I injected ♏ xx. sol. morph. acet. gr. xvj. ad ʒj. near the upper border of the great sciatic notch, the nozzle of the canula being made to touch bone before injecting the solution. (This I have often done, and I have endeavored to throw the solution against the nerve itself; but I do not think that one gains more in this way than when the canula is simply introduced for half an inch, or an inch.) Patient slept well that night, and was greatly relieved for a couple of days.

March 4th.—Pain returned, but in a different spot along the course of the nerve, and not so intense as before. Injection repeated.

March 6th.—Patient begs for a repetition of the injection; says that he has been more relieved by this than by any other treatment. Points out two painful places, in each of which gtt. xx. were thrown. Said in the morning that he had been quite tight in the night, and walking about the ward without knowing where he was. *8th.*—Gtt. xx. again injected.

March 15th.—The injections were suspended until Tiemann could make me an instrument; and the deformity, which had nearly disappeared under their use, was now as bad as ever, and the pain very severe. Injections were now resumed, and ℥ xx. were followed by sleep and great relief. 16th.—℥ xx. of a solution half the strength of the former, which was found to be insufficient to afford entire relief. 17th.—Injected ℥ xxv., gr. viij. ad ʒj. 19th.—Injected ℥ xx., gr. xij. ad ʒj. 21st.—Injected ℥ xx., gr. xvj. ad ʒj.

The narcotic now relieves pain without producing profound sleep; the appetite at night and in the morning is poor, but the patient says that he makes up for it at dinner. The injections were kept up, but at longer intervals, until the 1st of April, when they were no longer needed; the patient moved about without his crutch; the contraction of the limb had in a great measure disappeared; and the only disagreeable feature in the case was the appearance of two abscesses, or furuncles, one in gluteal region, and one in calf of leg, supervening upon injections in those sites. These, however, were small matters and produced no permanent inconvenience, and he soon after left the hospital.

*Case* 7.—*Carcinoma of pylorus.*—Drs. E. W. Lambert, house-physician; Foster Swift, senior-assistant.

The following typical case was frequently examined by the clinical class at Bellevue.

Henry Ennis, aged 59, born in New Jersey, widower, mason by trade. Has always been healthy; no hereditary or acquired taint; temperate in habits. First had his attention attracted to his disease by pain in the pit of his stomach, about the middle of May, 1858. Bowels inclined to be costive, and kept open by Brandreth's pills. About a month later began to vomit in the morning, half digested and very acid food which he had eaten the day before. This would occur three or four times a week, and when attended with much straining he would throw off from half a pint to a pint of darkish-colored fluid. These attacks were rather preceded by pain at the pit of the stomach than by nausea. We cannot learn that he vomited glairy mucus. As these attacks continued they became more frequent, and if he attempted to lie on his back after a hearty meal, it would immediately regurgitate. He always tasted his food after having eaten it.

Appetite, strength, and flesh gradually failing, he was obliged to enter Hospital, July 28th, 1858. Greatly emaciated, of cachectic appearance, complaining of nausea and loss of appetite. About six hours after eating he would vomit half digested food. The dark-colored fluid alluded to could not be

obtained for microscopic examination. During his stay in the Hospital he was given fluid nourishment, with tonic and carminative remedies, with an occasional enema.

On examining the abdomen, some enlargement of the superficial branches of the external epigastric and mammary veins noticeable, also a tumor, very hard to the touch, and measuring three and a half inches in its long diameter by three inches transversely, movable by the touch, and occupying different positions on different days; for instance, so situated on August 12th, that a line drawn transversely to the umbilicus would divide it into equal parts, while on the 14th it lay an inch and a half below the umbilicus and an inch to the left of the median line. This displacement seemed to depend upon alterations in position of the stomach itself. On many occasions the outlines of the stomach could be distinctly traced, the greater curvature being sharply defined, and the organ then markedly tympanitic. Vermicular contractions could never be observed or induced by brisk friction, though the abdominal parietes were very thin.

By the end of August the stomach would retain nothing, and the patient had to be supported by nutrient enemata.

Sept. 2.—Died.

*Autopsy*—fourteen hours after death. Weather warm; body pale and emaciated; tumor still noticeable, but slightly less prominent; stomach much distended, extending on left side from ant. sup. spine of ilium to 6th rib; adherent to the liver under the umbilicus for the space of a square half inch; full of dark-colored grumous fluid; cancerous ulceration involves pylorus, and a continuous surface measuring three inches by two, bounded by a hard ridge; liver, where in contact with stomach, for a space of one inch by one and a half, scirrhous, otherwise healthy; lymphatic glands of stomach the size of filberts, enlarged and hardened. Other abdominal and thoracic viscera healthy. Head not examined.

*Case* 8.—*Rigid os—Douche, etc.—Forceps to head transversely placed in pelvic excavation—Mother recovered—Child dead before delivery.*—McCudder, aged 32; first pregnancy; fell in labor August 26th, 1858, in Bellevue Hospital. Dr. E. W. Lambert, house-physician, and Dr. Foster Swift, senior-assistant. Presentation R. O. P.

This patient was seen at 6 A.M. on the 26th, when the os uteri was as large as a dollar, waters, according to her account, having been dribbling away for several days. Having remained in this condition for twelve hours, gr. xv. of ipecac. were given and the warm douche applied by the house physician. Five hours after, no material progress having been made, the douche was repeated and chloroform given.

Aug. 27th, 2 P.M.—The patient was reported to me as one on whom the douche had made no impression, though the stream had been steadily thrown against and within the os uteri. On examination I found the os of the size and apparent rigidity described, but on introducing my fingers, and forcibly dilating it, full dilatation was almost immediately effected.

8 P.M. I was sent for by Dr. Swift, as the woman was showing symptoms of decided exhaustion, vagina becoming hot, and the head having simply so altered its position as to present its sagittal suture transversely with post. font. to right ilium. The fœtal heart seemed to me inaudible. I applied the forceps with pivot with one blade over the left temple of the child, and the other behind the right ear, and rotating the occiput under the pubis, delivered a dead male child weighing six and a half pounds, having the cord twice around the neck. Woman did well.

*Remarks.*—This case is published as an additional illustration of the value of never neglecting manual dilatation of the rigid os; and I am sure that many of the cases in which the douche is supposed to have failed, come within this category, the os preserving the same dimensions and the same deceptive feel of rigidity which originally motived the douche, but now yielding to the dilatation of the fingers, as brown paper would do when wetted. Further examples of this have been previously published by me in this Journal, and, indeed, the principles regulating employment of the douche for rigidity of the os and cervix, are: 1st. Injection of a sufficient stream within and against the os and cervix. 2d. Tentative manual dilatation to see whether the semblance of rigidity may not alone remain.

In such forceps cases, the handles must be widely separated, and in them it seems to me that the pivot is of value. It is to be regretted that I did not perform the operation when I dilated the os uteri at 2 P.M., as the child would then have been saved; but one always feels inclined to rely more on the powers of nature than the result would often justify. It is possible, if not probable, that in this, and very many similar cases, the child may die from the simple tightening of the cord in the movement of rotation, just one half the necessary distance having in this case been traversed. When I arrived at 8 P.M. the fœtal pulse must have just ceased, as Dr. Swift had heard it some time before; and although it was not audible when the operation was commenced, yet how strongly would its sudden cessation justify the application of forceps, even though no other circumstance called for their use.

*Case 9.—Rigid os and lingering first stage—Douche—For-*

*ceps—Mother recovered—Child died on third day, from other causes.*—Elizabeth Warren, aged 25, first pregnancy, in labor in Bellevue Hospital, from Nov. 22d, 1857, at 11 P.M., to Nov. 25th, 9 A.M. Female child, eight and a half pounds. Dr. C. F. Hasse, house-physician.

When first seen by Dr. Hasse, the membranes had prematurely ruptured; os dilated to the size of a two shilling piece; head in first position; pains irregular; scarcely any effect on cervix. An emetic and enema were followed by an anodyne.

Nov. 25th, 2 A.M.—Os dilated a little more than half a dollar, rigid and slightly swollen; vagina becoming hot. Two warm douches with very favorable effect; 7 A.M., almost complete dilatation; fœtal head still obstinately engaged just within the brim of the pelvis. Fearing further risk to mother and child from the continued pressure, I delivered the latter, living, with Simpson's forceps. The mother, who was a hysterical woman, was for some time inclined to puerperal mania, but finally recovered perfectly.

Nov. 28th.—The child, which was doing well, died suddenly in a convulsion.

*Case* 10.—*Arrest of head by promontory of sacrum—Forceps—Both did well.*—Mary Conroy, aged 26, first pregnancy, in labor from Oct. 28th, 5 A.M., 1857, to 29th, 9.30 A.M. Dr. J. R. Buist, house-physician. In this case the head was retained in one place by the promontory of the sacrum for fifteen hours, when I delivered a male child weighing ten pounds, with Simpson's forceps. Both mother and child did well.

*Case* 11.—*Forceps in superior strait—Both did well.*—Ann Mahony, aged 33, first labor, from May 26th, 1857, at noon, till May 28th, 6 A.M. Dr. John C. Draper, house-physician. In this case the head was arrested in the brim, and I finally delivered a female child weighing six pounds, with Simpson's forceps. Mother and child recovered perfectly.

43 West 32d street.

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ART. V.—*Cases of Puerperal Convulsions, with Remarks upon the Treatment of Eclampsia.** By E. N. CHAPMAN, M.D., Physician to the Long Island College Hospital, Brooklyn, N. Y.

FROM some general cause, probably atmospherical, puerperal convulsions and puerperal fever have been more than usually prevalent for the last six weeks. Undoubtedly the epidemic has not as yet reached its height, and we, all of us, may be

* Read before the Medico-Chirurgical Society of Brooklyn, March, 1858.

called to cases of this description, which will demand of us very careful treatment to bring to a successful issue.

Most authors make three varieties of puerperal convulsions: hysteric, epileptic, and apoplectic. The first division is a simple form of hysteria, and improperly placed among its more grave compeers, excepting that at times the hysteroid type at the outset rapidly assumes the epileptic character, as I have observed myself in one fatal case. All convulsive movements, however trivial and unimportant they may appear, must be carefully watched when they occur in the last months of pregnancy, during labor, or immediately subsequent to confinement. Eclampsia is prone to occur at these periods, and there is a natural tendency for this disorder to supersede, at these times, the various forms of hysteria.

*Frequency.*—From statistics collected by Churchill, we find that 79 cases of convulsions occurred in 38,306 cases of labor, or 1 in about 485.

At Dublin, 30 cases in 1,600, or 1 in 53 labors. From the year 1829 to 1842, at the Maternité, Paris, at the Clinique d'Accouchments, the disease occurred 10 times in 12,500 labors, or 1 in 1,250 cases. A vast difference, and perhaps inexplicable. I would suggest a colder climate and frequent electrical changes of the atmosphere, as a reason for its greater frequency in England and Ireland.

*Class.*—Primiparous women are the greatest sufferers. Of Merriman's 36 cases, 28 were with first children; of Ramsbotham's, two-thirds; of Collins's, 75 in 85 cases. Nine cases have fallen under my notice—seven epileptiform, and two apoplectic. Of the first class, four were first pregnancies; of the second class—apoplectic variety—neither of the two were primiparous.

*Mortality.*—The mortality from this disease, in former times, and even as late as the age of Hunter, was fearful. At least 75 per cent. of those attacked perished. The treatment consisted of nervines and anti-spasmodics, but blood-letting was interdicted and considered highly inappropriate.

In later times, with a more fearless use of the lancet, the mortality has been very materially diminished; but still we have to acknowledge the loss of a heavy per centage of our cases. We are not past improvement yet.

Colombat states that in France one-half of the cases die. Churchill, from different authors, gives us a table of 152 cases; of these, 42 mothers were lost, or more than one-fourth.

Dr. Collins, Dublin, had 30 cases, and lost 5—between 16 and 17 per cent.; Dr. Meigs, Philadelphia, 20 cases, and lost 3—between 14 and 15 per cent.; Dr. Huston, Philadelphia,

12 cases, and lost 2—15 per cent. I have seen seven cases of pure eclampsia; of these two died. In two apoplectic cases, no treatment was adopted, neither patient living but a very short time.

I find no tables illustrative of the comparative fatality of this disease, at the three epochs when it may assail the patient, viz., before delivery is possible, when delivery is practicable, and after the birth of the child. Statistics on this point would be interesting, and I may say absolutely necessary, if we would draw an inference as to the relative efficacy of different modes of treatment, or the superiority of any particular mode of management, at a peculiar stage of the complaint. A broad distinction certainly exists between those cases of the first and third class, where we must rely on medical treatment alone, and those cases of the second class, where we terminate both the fit and the labor by an artificial delivery, without aid from any medicine whatever. Where delivery is possible, most of the cases recover, for the very good reason that we remove the cause. Antecedent to labor, convulsions are of the most grave and serious character, and must give by far the greatest ratio of deaths.

*Etiology.*—The etiology of this terrible malady is left in great obscurity by writers on this subject, and they make their statement of causes in a very loose manner. Evidently they know but little definite on this point beyond vague generalities, affording no fixed data on which to found a rational treatment. How, I would ask, are we to benefit our patient, when we are ignorant of the very essence of the disease, and are driven to the painful necessity of fighting an enemy in the dark? The causes suggested are atmospheric or endemic; the puerperal condition; excentric, as sympathy with the stomach, bowels, or uterus; mental emotions, fright, difficult and tedious labor, causing an accumulation of blood in the head, and pressure on the sacral nerves, etc. First causes are not reached in this catalogue, and we must, if we look no deeper, be satisfied with some trivial exciting cause.

Certainly, at times, there is an electrical condition of the air predisposing to eclampsia. The puerperal condition, however, is a *sine quâ non*, and without this, exciting causes produce no effect. Under other conditions we have no similar affection, that may occur only once during a person's life. We are led to consider, for these reasons, that the uterus, with its sympathetic reactions on the nervous system, as the starting point in the causation. Other causes are but secondary. An enlarged uterus, with greatly augmented nutrition and nervous susceptibility, is primary and the first link in the great chain of causes.

From this great and universal predisposing cause, we have two others derived from it—an increased nutrition, and an augmented irritability of the general nervous system. There is a tendency in the pregnant female to a full habit—often the blood becomes of a rich, highly stimulating quality, holding fibrine and red globules in great excess, with very little serum when coagulated. In one case, 40 ounces of blood had less than 3 ounces of serum. I have made the same observation in every case where I have noticed the blood. We can readily conceive the effect that must be produced by having blood of this character forced on the brain under the stimulus of powerful convulsions frequently repeated. This makes one class of our cases—the congestive type—and if we would credit most modern authors, the only type; more than this, they consider congestion of the brain as the sum total of the disease, with no exceptions, and the treatment is predicated on this assumption.

I shall take the liberty of adding a second class which we may call the nervous type. In this instance the blood is not in excess nor highly organized, and very often we may have the very opposite of these two conditions—great deficiency of blood and profound debility or exhaustion. There is less congestion in the head of an active character, and often none whatever. The convulsions are due to the sympathetic relations of the uterus; though the immediate exciting cause may be the irritation of almost any portion of the nervous system, as the stomach, bowels, pain of any kind, fear, anxiety, etc. Convulsions after delivery mostly fall under this head.

The presence of a dead fœtus in utero is a frequent exciting cause, from which, doubtless, though not decomposed, a virus is absorbed which acts with powerful energy on the nervous system. Three of my cases were delivered of fœtuses, dead previous to their seizure with convulsions. Another cause is the suppression of bile or urea in the excretions, originating from that mysterious uterine sympathy, as its prime cause, and producing on the general system such profound effects as to abolish the functions of organs whose secreting and excreting is mainly under the nervous system—more practically the organic nervous system.

After delivery, in addition to this uterine element, we have, as an exciting cause, as surgeons would say, the shock of the operation—the sudden change on emptying the uterus of its contents.

The distinctions made above, appear to my mind of the first importance practically; if true, we are liable greatly to be misled by systematic writers, who give us a routine treatment

for all cases; viz.: the depleting, or antiphlogistic kind, the treatment for congestion of the brain.

Preliminary to relating the cases which more particularly engage our attention in this article, I will give the details of two cases which I deem apoplectic.

*Case* 1.—Mrs. S., Amity street, the mother of one child, and the subject of frequent miscarriages, healthy, full habit, in the sixth month of pregnancy. She ate cabbage with vinegar for dinner, and shortly after was taken with cramps in the stomach. About 3 P.M. I was sent for and prescribed an emetic to be followed by laudanum until the pain was relieved. My directions were disregarded. She continued almost frantic with pain, when suddenly, about 10½ o'clock in the evening she fell back insensible, with little or no convulsive movement. When I arrived at 11½ o'clock she was completely comatose, and evidently in a dying condition. No treatment attempted. She died in less than two hours' time.

*Case* 2.—Mrs. F., Amity street, mother of several children, after natural, easy labors; became jaundiced during the three last months of gestation. The jaundice persisted up to the time of her confinement. She had an easy labor. A few minutes after I left, her sister found her walking around her room apparently in search of something, but entirely beside herself. She was put in bed, and at first had to be restrained; afterwards she was quite passive, with marked evidences of pressure on the brain—no flooding. No treatment adopted. The patient lived only three hours and died apoplectic.

As observed before, I consider such cases as these a pure form of apoplexy, requiring no special treatment, excepting, where possible, delivery should be hastened by all justifiable means.

I will now give the details of some cases of epileptiform convulsions.

*Case* 3.—About five years since, Dr. Turner called me one evening to see a case of puerperal convulsions. I found a thick-set plethoric German woman, eight and a half months pregnant with her first child. She had had four or five convulsions, and now lay with stertorous breathing—pulse full and strong—œdema of face hands and feet; no signs of labor. The doctor had been with her about two and a half hours—had taken 20 oz. of blood, and given two teaspoonfuls of McMunn's elixir in divided doses without any improvement.

By my suggestions we gave her sufficient antimony to produce free vomiting four or five times and afterwards attempted to keep up its sedative, contra stimulant effects by

smaller doses repeated every half hour. In this instance we gave ¼ gr. doses. If there was no vomiting, and the face instead of being pale was flushed or suffused, the quantity was to be increased without any definite limit. The idea was to give all the stomach would bear, and generally when there is fullness of the head free doses will be tolerated. After the emetic she had no more convulsions, but lay quite easy though insensible; the friends thought her asleep, therefore they omitted the medicine. Two hours after she was seized with convulsions as severe as at first, and had two before we arrived and resumed the antimony. We at first gave sufficient to vomit and then in divided doses as before. The convulsions again disappeared on vomiting, and did not recur. She remained insensible, stupid for twelve hours; then gradually, with incoherent talking, recovered her senses; went two weeks, and had a perfectly natural labor, but the child was dead. Excepting ice to the head, nothing was used but antimony.

*Case* 4.—About three and a half years since, Dr. Brooks sent for me at 12 o'clock at night, to assist him in a case of puerperal convulsions. The doctor had bled her to the extent of 16 ounces, but had, as yet, given no medicines. Found a slender, highly nervous female in labor with her first child; the pains had come on during the evening; os uteri dilated to the size of a quarter of a dollar and rigid; uterus constantly hard; pupil not responding to the light; evidences of an excess of blood in the head. Four or five convulsions had occurred, with stertor in the intervals.

Gave antimony as in the first case. No convulsions after vomiting, but a persistent insensibility during the night. In the morning, expulsive pains set in, and she was delivered naturally of a seven-months fœtus, that bore evidences of having been dead antecedent to labor. In subsequent confinements she has had no trouble.

*Case* 5.—On the 4th of last month, at 9 A.M., I was called upon by Dr. Crane to visit with him a case of puerperal convulsions. We found a full-blooded, thick-set woman (American) enciente with her first child; pulse tense and corded; hands, face, and feet swollen; no signs of labor; uterus constantly hard; free secretion of urine up to present time.

The history of the case was, that she had complained for several days of a pain through the centre and back of the head; the day previous had eaten hard clams for dinner; felt uncomfortable during the evening; in the night was sick and vomited several times, and in the morning her bowels acted once or twice. At 7 o'clock she went into convulsions, which had oc-

curred four or five times when we arrived. She lay quite insensible with stertor only a few minutes after the fits.

We bled the patient 40 ounces; gave antimony and applied ice, as in the other two cases; in addition, gave croton oil and turpentine injections; no response from the bowels. The blood formed a solid coagula, with less than 3 ounces of serum.

Either from irritability of the stomach, from indigestible food previously taken, or perhaps from the large bleeding depleting the brain too much, the smallest quantity of the antimony was thrown up; even an eighth of a grain—evidently not sufficient being retained to produce the least salutary effect.

In this case there was much less hyperæmia of the brain than in the two other cases. The stertor only lasted for a moment after each fit. On more carefully observing our patient, I had convinced myself that the grand feature in the case was nervous irritability, as vomiting brought on a fit, and even a vaginal examination, a tremor. At 12 M. we were debating between chloroform and morphine. The doctor was strongly in favor of chloroform—I, equally strong in favor of morphine. Seeing Dr. McClellan pass, we called him in to help us out. Dr. McClellan was most decidedly in favor of chloroform.

Chloroform was now resorted to, and the patient was kept under the influence of this drug from one to six o'clock, when it was omitted, and we waited for results; no spasms after one o'clock. For half an hour she slept quite easily; then suddenly sprang up in bed, standing on her knees, and called for the chamber. The attendants laid her down, but for five or six minutes she continued struggling and crying out; when suddenly she lay back apparently dying; cold, clammy sweats and a deadly pallor; pulse a mere thread and uncertain. About nine o'clock the doctor repeated the examination. We both of us had examined her many times during the day, and found no signs of labor. He now found the os uteri dilated and the bag of waters protruding. I returned a quarter before eleven o'clock, and found a constant uterine effort, like that from ergot; NO urine in the bladder, and none secreted during the day, unless passed involuntarily; patient perfectly sensible, and would respond intelligibly, though very feebly and in a whisper, to questions; no mucous râle; breath free; countenance deathly; pulse unequal and of uncertain force; some pulsations scarcely felt at the wrist.

We gave brandy, and left her to nature. At half-past eleven o'clock the child was born; in three minutes after she was a corpse. The breath and pulse seemed to stop simultaneously. I imagine that the stimulation of the organic nerves from labor gave the woman, for the time being, an artificial life

not natural. The child was dead, and had been for several days.

*Case* 6.—Mrs. B., Smith street; nervous temperament; spare habit; the mother of several children after natural labors; was being confined with her fourth child; while the os uteri was becoming fully dilated, pains strong and expulsive, she suddenly went into convulsions, and in the intervals was insensible. The pains now became ergotic; uterus hard as a stone, with no relaxations. I attempted to push the anterior rim of the os uteri above the vertex, and after two efforts succeeded; the constant tension of the uterus above helping very materially. In less than half an hour labor was completed, at which time consciousness returned. Subsequent convalescence natural. No trouble in two labors since.

*Case* 7.—Nearly four years since, Dr. Brooks called me to see a young woman in labor for twenty-four hours with her first child. Several convulsions had occurred during the last three hours, with stertor and insensibility. Patient of a nervous temperament; no extraordinary fullness of the head. She had been bled 16 ounces and colds applied to the head. We delivered her with the forceps of a living child; no more convulsions, and recovery as after natural labor.

*Case* 8.—About eight years since, Dr. Atwater called me to assist him in a case of labor with convulsions. Found a young woman confined with her first child; nervous temperament, with little or no congestion of the head, but frequent convulsions, followed by stertor for a few minutes after; child's head impacted; woman evidently exhausted with her efforts. The doctor had bled her, etc. We applied the forceps and delivered her of a living child. Convalescence natural but tedious.

*Case* 9.—On the 24th of the last month, at 6 P.M., I was invited by Dr. Brooks to see a patient in Baltic street, delivered in an easy labor the evening previous by a midwife. During the night she was sleepless, and suffered from pain in the head. In the morning she commenced laughing and sobbing, and shortly after was convulsed—evidently at first hysterical, but, after a few repetitions of spasms, they became epileptiform. Dr. Brooks bled her 16 ounces—applied ice to the head—a blister to the nape of the neck, and gave cathartics and injections. No benefits resulting, chloroform was given to the extent of three ounces with a like result. Convulsions every ten or fifteen minutes of varied intensity; occasionally very severe; no stertor, but profound insensibility; no heat of head, or apparent congestion; pupil inactive; skin moist; uterus hard, and in a con-

stant state of contraction. Convulsions had continued twelve hours without intermission.

We gave her ½ gr. morphine to be followed by ¼ gr. doses every hour. She had only two light spasms up to 10 o'clock in the evening; afterwards they did not recur. She lay quite insensible; precisely the same as she did at first between the convulsions—rolling her eyes about with a meaningless stare. Gradually she became more exhausted, and died the following evening.

In all of the seven cases detailed above, there were several symptoms, as far as observed, always constant—uterus constantly contracted with no relaxations; pupil of the eye contracted and insensible to light, probably from the tension on the nervous system, and most certainly, in some of the cases, not from congestion of the brain; blood highly organized.

Of these seven cases, five recovered; three by effecting delivery, and two by the free use of antimony. The two in which chloroform was given died. They passed away without a struggle, as though the nervous power was exhausted, perhaps from the chloroform—perhaps from the disease.

This powerful agent diffuses itself along every nerve of the body. Then comes a calm—a deceptive calm—the outward manifestations of disease are hushed, and though the symptoms cease, the cause of disease is not removed. The calm—the treacherous sleep is changed to the stillness of death.

I have seen the same result produced by those dangerous doses of opium recommended by Prof. Alonzo Clark in puerperal fever. I protest, in the strongest terms, against the present fashionable use of chloroform in convulsions, especially as we must keep up its influence for several hours to gain the end required.

We come now, gentlemen, to a most important branch of our subject, viz., the treatment.

I find that all of our writers, who are established authorities on this subject, unanimously recommend a treatment identical with that for congestion of the brain, viz., bleeding, cathartics, cold to the head, stimulating injections, blisters, etc. The chief difference lies in the extent to which they carry depletion; some are for small bleedings, and others talk familiarly of taking 60 to 80 ounces at one time, and repeating the bleeding as often as the congestion requires it. They feel quite certain that the only thing to fear is congestion, and every other pathological condition that may exist, and perhaps does exist, is entirely ignored. Great caution is directed to be observed in the use of opium; few consider it applicable, or at any stage indicated, unless it be in exceptional cases. This caution necessarily grows out of their theory of the disease.

There are two methods of treatment varying from the established mode, which we ought attentively to consider, as they afford the greatest ratios of cures, viz., the treatment of Dr. Collins, Dublin, and the Philadelphia practice as described by Prof. Meigs.

Dr. Collins, after using depletion, antiphlogistics, and the other means generally recommended, if the case demands it, commences the use of opium and antimony in combination. He maintains that opium may be given in many head affections, particularly those of a congestive character, so as to produce all the sedative, anodyne effects of the narcotic with no unpleasant symptoms by its combination with antimony. He thinks that the antimony guards and modifies the action of the opium in such a manner as to obviate its tendency to increase congestion. Vomiting is cautiously avoided. Previous to resorting to this plan, which he considers applicable when other means fail, he gives the systematic treatment a fair trial. He would wait, even, for a cathartic to operate, which would occasion the loss of several hours—perhaps to the patient invaluable time. He lost from sixteen to seventeen per cent.

The practice followed by the best physicians of Philadelphia, as represented by Prof. Meigs, consists of the usual treatment, with a much more liberal use of the lancet. They coolly talk of taking 60 to 80 ounces of blood at one bleeding, ready, if they see occasion, to follow it up by smaller ones, frequently repeated. After bleeding and relieving the bowels, they resort to sedative doses of opium, to be given every hour till the full effects of the drug are produced. This plan is considered applicable, without any distinction, to all cases. They report a mortality of fourteen to sixteen per cent.

The great feature—the general character—of all convulsive diseases is the same. The starting point is some irritation of the nervous system, sufficient to disturb the nervous influence and set up an irregular action, called spasms. When the cause is greater you have a more profound, lasting and dangerous disease. The continuance and frequent repetition of convulsions has a natural tendency to fill the head with blood, which may end in a permanent congestion. This holds true in all convulsions. The convulsions of children—the convulsions from the non-appearance or retrocession of an eruptive disease—arise primarily from an impression on the nerves, and resulting very often, as in the disease before us, in congestion of the brain. Here, also, we require the same general principles for our guide.

The treatment of puerperal convulsions naturally divides itself

into three several periods: before delivery is possible; when delivery is practicable; and after the birth of the child.

In the first period a moderate bleeding, for once alone, from 16 to 30 ounces, is advisable, when the violence of the convulsions fills the head with blood. Where we have no head symptoms, it is worse than folly. We bleed not with the intention of curing our patient by depletion, but as preparatory and auxiliary to more powerful means. We might bleed six or eight times, and still after the next convulsion have as much blood in the head as ever—or I would say, apparently so. Directly following the bleeding, or without it, if it is not considered advisable, we would give tartar emetic in full doses—$\frac{1}{4}$ gr. every ten minutes—until the patient vomits freely three or four times. This should be done to insure its full effect. The impression thus produced is prolonged by repeated doses of from $\frac{1}{4}$ to $\frac{1}{2}$ gr. every hour.

I consider that the antimony has a double action—the one sedative and anti-spasmodic; the other, antiphlogistic and contra-stimulant—and that from these combined effects it has great power in diminishing the capillary circulation. On this principle I would explain its action in congestion and inflammation of the lungs. It appears to me to exercise the same power in head affections, for the same reasons. To produce favorable results, the antimony must be given at an early stage, before the congestion is permanent. This remedy is particularly adapted to those cases in which there is great turgescence of the head, and generally free doses will be tolerated. In the opposite condition of the brain, vomiting will be apt to occur from the smallest quantity, and it may not exercise the least power over the disease. In such a condition, opium is our reliance.

I have used tartar emetic in those fearful cases of scarlet fever when the eruption has failed to appear or has receded, followed by congestion of the brain, with or without convulsions. It has succeeded, when used sufficiently early, in my hands better than any other treatment whatever. I can recall to mind several cases that recovered under the most desperate circumstances.

In concussion of the brain, when reaction comes on, the tartar emetic is far superior to all other known remedies; in most cases, depletion, general or local, is quite unnecessary.

One great argument in favor of the antimony is, that though it should fail to put a stop to the convulsions, it prepares the way, in the congestive cases, for the administration of anodynes. When the active congestion is relieved, or does not exist, the full doses of opium, as advised by Dr. Meigs, are superior to any other plan.

As to the chloroform which is so generally administered in this condition of things, I have already expressed my opinion.

Secondly, the treatment when delivery is possible. Here the course to be adopted ought not to admit of much dispute. Most authorities, however, only sanction the application of the forceps; but any other interference or means of hastening the birth of the child is interdicted. It is thought that turning might aggravate the spasms. We should empty the womb of its burden by any justifiable procedure the most appropriate to the circumstances, without delaying to bleed, or wasting time in following out any preliminary treatment. After the child is born, we can meet the demands of the case with better hopes of success.

Cases of convulsions that commence before or during labor and persist after its completion, will have resulted very likely in a permanent congestion of the brain, and they must be managed accordingly. If this condition has not been produced, our hopes are in opium. Where convulsions take place for the first time after confinement, we have a state of things entirely different from the two other divisions. The shock to the system—perhaps nervous prostration—never occasions too much blood in the head, even of a passive character. Cases with great exhaustion from protracted labors, either natural or artificial; cases rendered doubtful by profuse hemorrhage, fall naturally under this same head. I cannot too strongly give my disapproval of the routine practice under such circumstances.

The remedy that will do us most service in such a crisis, worth all others combined, is opium in full and sedative doses; any depressing agent is out of the question.

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ART. VI.—*On the Oxysulphuret of Antimony as an Expectorant in Inflammatory Diseases of the Infantile Respiratory Organs.* By A. JACOBI, M.D. Physician to the Children's Department of the (Canal street) German Dispensary.

THE oxysulphuret of antimony, although mentioned by Basilius Valentinus in the fifteenth century, was made known for the first time in 1654 by Glauber, who prepared it while operating on the metallic antimony. Although generally well known from that time, there is scarcely another chemical preparation for which more different modes of preparation have been recommended, the chemical composition of which has been sought in more different ways, and the pharmaceutical and medical reports on which are more various and even contradictory. Now, it not being our intention to write a treatise on

the chemical constituents of the oxysulphuret of antimony, we shall rest satisfied with merely laying before our readers what we sincerely believe to be the best method of preparing this remedy—one we have largely employed in our practice, and the results of which we are about to give to our professional brethren.

The sixth edition of the Prussian Pharmacopœia (1846) gives the following prescription for preparing the oxysulphuret of antimony: 3 pounds of common carbonate of soda are dissolved in an iron vessel in 15 pounds of water, and are well mixed with a pound of lime made half fluid by three pounds of water, with 2 pounds of the black sulphuret of antimony, and with 4 ounces of flowers of sulphur. This mixture is to be boiled for an hour and a half, the evaporating water being always compensated by filling up anew. The remainder is again boiled with 6 pounds of water, filtered and washed out with hot water. The fluid is made to crystallize. The crystals are washed out with distilled water which has been mixed with $\frac{1}{10}$ of potassa, and afterwards dried. One pound of them is dissolved in 5 pounds of water, the whole filtered and diluted again with 25 pounds of water. A mixture of $4\frac{1}{2}$ ounces of sulphuric acid and 8 pounds of water decanted after refrigeration is then added. The sediment is filtered, washed out with common water at first, and with distilled water afterwards; is then pressed out between blotting paper, dried in a dark place, in a temperature of 77° Fahr., reduced to powder, and kept in a dark, well-closed vessel.

We omit the description of any physical and chemical qualities of this preparation, but give the analysis of Berzelius and H. Rose, the best analytical authorities. Both of these declare it to consist of 2 atoms of antimony and 5 atoms of sulphur ($Sb^2 S^5$), or of 61.59 equivalents of antimony and 38.41 of sulphur. It has been called by Liebig the persulphide of antimony.

We have given in full the mode of preparing this drug, which we make use of in our own practice, for obvious reasons. The principal objection to the oxysulphuret of antimony has always been that it was so extremely liable to decomposition as not to be administered with any degree of surety. It has been asserted that there is always oxide of antimony formed in what is presumed to be the genuine article, and undoubtedly it is very often found. Sulphur too is formed, even in the shape of sulphuric acid, from decomposition induced principally by the influence of air and light. As to the latter influences, and those of a similar kind, it is evident that it is not the fault of the chemical preparation, if the conditions necessary to its un-

altered state are not given. Nitrate of silver in solution, prussic acid, and many chemical substances require the greatest care in preserving them; nevertheless, no one ever ventured to object to their administration in medical practice. It is true that great care has to be taken in preparing our medicament; that it requires washing out finally in distilled water instead of common water; that it needs to be dried slowly at a certain temperature, and kept under peculiar external conditions; it is true, besides, that the many other ways of preparing it are unsafe and give rise to decomposition; but after all, we see no reason to declare a substance to be subject to decomposition, if it can be proved that it is easily decomposed only when made by a wrong process and kept under unfavorable circumstances.

Another objection to the medical use of the oxysulphuret of antimony has been that it is soluble in alkalies and might undergo decomposition in the stomach when the secretions happened to be abnormally alkaline. It has been asserted that it is decomposed too by acids, however slight they be. Now, we are unable to see, if indeed decomposition would easily take place, why a medicament ought not to be given for such a reason. If the secretions of the stomach are too alkaline, make them less so; if acid drinks will decompose your medicine, do not administer them. There are a great many other medicines requiring the same and more precautions; it has never been urged as a reason against the medicinal use of the nitrate of silver that its tendency to decompose, either by the secretions of the stomach or by ingested food, makes it unfit for internal administration.

The truth is, that the oxysulphuret of antimony has not been in general use for a long time; twenty-five or fifty years ago it was highly estimated, but the majority of writers at the present day, appear to scarcely know of its existence. In order to show this, we will give some literary notices, particularly such as have been taken from authors on infantile diseases, it being our object to communicate a few observations on the mode of operation of the oxysulphuret in diseases of children, and to recommend it for further use. We will premise that we desire our readers to give their special attention to the dose of this remedy, it being our firm conviction, after a great number of observations, that the want of success often complained of in its administration, and the want of confidence in its power is but the consequence of an entire mistake as to the amount to be given.

Behrends administered one grain every two hours in the second stage of pneumonia, when expectoration was deficient

and strength was failing, in combination with camphor and benzoic acid. Jahn gave one grain three or four times a day, in pulmonary catarrh, with opium and camphor. Richter gave one grain twice a day, in acute catarrh of the stomach, with tartrate of potash, and two grains twice a day, in chronic arthritis, together with calomel and aconite. Brera employed a fourth of a grain every three hours, in painful arthritic affections, with morphine. Lessing gave one grain and a half three or four times, in chronic pulmonary catarrh.

From these quotations it is evident that it was impossible from the manner of administering this remedy, in combination with others, frequently of the same class, to decide on its effects; and further, that the dose seldom exceeded one grain, and only in exceptional cases reached as high as six or eight grains in the course of a day. It is, moreover, to be kept in mind, that such are the doses administered to adults.

In looking over the literature of diseases of children, we find as many negative as positive facts; that is to say, there are as many writers, who do not even mention the name of this article, as there are who recommend it highly. In the oldest pædiatric literature, even in Nils Rosen von Rosenstein's work, the oxysulphuret of antimony is not mentioned. Jahn (1803) says, it has been recommended by some in hooping cough.

Henke gave half a grain twice a day, together with half a grain of powdered herb of Belladonna, in hooping cough. Tourtual gave a quarter of a grain, with three grains of sulphur, three times a day, in pseudo-croup and the second stage of inflammation of the trachea. Dornblüth used a quarter of a grain every three hours, in pneumonia, to a child of one year of age. Wendt gave the same quantity, in the like disease, four times a day, to children of from three to four years of age. Hinze gave half a grain every two hours, with oxide of zinc and musk in hooping cough. Meikisch, who wrote his "Contributions to the Knowledge of the Infantile Organism" at about the same time (1825), neither recommends nor mentions it. Wenzel (1829) prescribed it in pneumonia, to a child of one year of age, a third of a grain to be taken three times a day; to a child of two years of age, either half a grain four times a day, or a quarter of a grain twice a day, or a sixth of a grain to be taken every hour; in measles, to a child of two years of age six doses of half a grain each, every two hours; to a child, one year old, twelve doses, of an eighth of a grain each, to be taken four times a day. Rau (1832) considers it to be a powerful expectorant, in a dose of a sixth or a quarter of a grain, in infantile pneumonia, after the height of inflamma-

tion and fever is over, and where the accumulation of phlegm in the bronchi forbids free breathing. Meissner (1832) mentions it as an expectorant, but does not appear to expect much of its administration. After this period, the oxysulphuret of antimony is seldom mentioned, and never so strongly recommended as before. It is true, that Cruse (1839) in his work on infantile bronchitis, speaks of it as an expectorant, but he frankly states that he prefers the anisated liquor of hartshorn.

Fuchs, in his monograph on infantile bronchitis (1849), merely mentions its name, but as early as 1837, Seifert did not think proper to name it among his medicinal agents, in his monograph on the bronchio-pneumonia of new-born infants and nurslings. Moreover, there is perhaps no manual on infantile diseases, of the last twenty years or more, which takes the least notice of it, whereby sufficient proof is given, that the recommendations of some of the earlier writers were not confirmed by the experience of their successors. In the manuals of the following authors: Valleix, Barrier, Underwood, Coley, Evanson and Maunsell, Stewart, Eberle, Legendre, Dewees, Hennig, Meigs, Condie, Churchill, Bednar, West, Rilliet and Barthez, Bouchut and Tanner, not the slightest mention is made of the effect of the oxysulphuret of antimony as an expectorant.

In the works of some of the latest writers we find similar remarks. Anton, in his collection of prescriptions, prescribes in pneumonia of children of from eight to twelve years of age, a quarter or one-half of a grain. Joseph Schneller, in his "Materia Medica applied to the Diseases of the Infantile Age" (1857), while saying, that it is administered in long continued catarrh, bronchial blennorrhœa, in croup, when the more dangerous symptoms are disappearing, in hooping cough, as a diaphoretic and expectorant, speaks of doses of an eighth or a quarter of a grain each, to be taken three or four times a day. The pharmaceutical writers of the present day offer similar remarks: Schroff, of Vienna, speaks of several daily doses of from a quarter of a grain to a grain each; Schuchardt, of Gottingen, has from a quarter of a grain to two grains, and allows even five grains in exceptional cases. Oesterlen, of Heidelberg, whose doses are believed in Germany to be generally very high, speaks of doses of from one to four grains, to be given several times a day. Sobernheim recommends a quarter or one-half of a grain, sometimes even one or two grains, to be administered two or four times a day. While, then, authors on pharmaceutics and therapeutics deem it their duty to register anything that has been said on any pharmaceutical object, pathologists of the present day, especially such of the last year, as Wunderlich, Leubuscher, Niemeyer, either entirely overlook

this antimonial remedy, or have very little indeed to say in its favor. Finally, from "Thomson's Conspectus of the British Pharmacopœias," seventeenth edition, 1852, we copy the following notes on the oxysulphuret of antimony: "Operation: emetic, diaphoretic, cathartic, according to the extent of the dose; alterative, used now only for forming Plummer's pill. Use: for chronic rheumatism and obstinate eruptions. Seldom ordered. Dose: gr. i. to iv. twice or thrice a day, in a pill." The "Dispensatory of the United States," tenth edition, p. 881, pronounces the very same opinion: "The precipitated sulphuret of antimony is alterative, diaphoretic, and emetic. It is, however, an uncertain medicine, as well from the want of uniformity in its composition, as from its liability to vary in its action with the state of the stomach. It is seldom given alone, but generally in combination with calomel and guaiacum, in the form of Plummer's pill, as an alterative in secondary syphilis and cutaneous eruptions, or conjoined with henbane or hemlock in chronic rheumatism. During its use the patient should abstain from acidulous drinks. Its dose as an alterative is from one to two grains twice a day, in the form of a pill; as an emetic, from five grains to a scruple."

From the facts thus selected from the authors of more than the last half century, it becomes evident that there is a great variety of opinions as to the operation of the oxysulphuret of antimony. While believed to be, at a certain period, a highly valuable remedy in different morbid conditions of the organism, or inflammations of the respiratory organs, scrofula, rheumatism, arthritis, blennorrhœa, diseases of the lymphatic glands, of the skin, and of the pulmonary nerves, it has been again considered to be so valueless as not to attract the least attention from the medical writers of the last twenty years. We believe the reason may be found in the fact we insisted upon above, that the majority of preparations have been uncertain, because of their being badly made; and in the further fact, that medical practitioners followed more the theoretical impression of the caution required by antimonial medicaments in general, than their own careful observations on the mode and strength of the operation of the precipitated oxysulphuret.

Thus, what we are going to prove next is, that the doses given have been incompetent and insufficient for any considerable result; and that what is put down as the highest dose to be administered, is scarcely proper to begin with even in the slightest affections. It is well understood by our readers, that the larger doses of one grain, etc., as above mentioned, are to be taken as the quantity allowed for adults. If these doses

were to be reduced to the proportion necessary for infantile diseases, we shall, after having reported our practice and the results of our doses, appear more justified in saying that the difference of opinion and the want of confidence is entirely due to the insufficiency of the doses administered.

Before making some general remarks on the indications, we annex the subjoined list of cases taken from the journal of the children's department of "the German Dispensary of the city of New York," which, for the use of our readers, has the number on the journal, the sex and age of the patient, the diagnosis, and the doses of the oxysulphuret of antimony. We shall add some observations taken from our private practice:

| No. of Journal. | Sex. | Age. | Disease. | Dose of oxysulph. of antim. | Continued | Combined with |
|---|---|---|---|---|---|---|
| | | Yr. Mo. | | | | |
| 7 | F. | 2 | Pneumonia, left, inf. | 1½ gr. every 2 hours. | 4 days. | |
| 9 | M. | 3 | " " sup. | 1 gr. 4 times a day. | 12 " | |
| 158 | F. | 9 | " bilat. sup. | 1 gr. every 2 hours. | | |
| 216 | F. | 6 | Hooping cough, cat. | ¾ gr. 4 times a day. | | |
| 265 | M. | 5 | " " | 1½ gr. " | | Extr. bellad. ½ gr. |
| 281 | F. | 4 | " " | " " | | " " |
| 290 | M. | 1 6 | " " | 1½ gr. every 2 hours. | | |
| | | | | 3 gr. 4 times a day. | | " " |
| 300 | F. | 9 | " pneumo'a. | 2 gr. " | | |
| 311 | F. | 3 | Pneumonia, left, inf. after measles. | 2½ gr. " | | Sulph. chin. ½ gr. |
| 313 | F. | 3 | Hooping cough, cat. | 1 gr. " | | Extr. bellad. ½ gr. |
| 326 | M. | 2 6 | Pneumonia. | 2½ gr. " | | Sulph. chin. ½ gr. |
| 355 | M. | 7 | " left, sup. | 2 gr. " | | |
| | | | | 1 gr. every 3 hours. | | |
| 370 | M. | 1 5 | Bronch. cat. | 1 gr. " | | |
| 397 | M. | 3 | " " | ½ gr. every 2 hours. | 4 days. | |
| 410 | F. | 2 | Hooping cough, cat. | 2 gr. 3 times a day. | | Extr. bellad. ½ gr. |
| 457 | M. | 1 8 | Bronch. cat. | 1½ gr. every 2 hours. | 2 " | |
| 486 | M. | 7 | Hooping cough, cat. | 1 gr. 4 times a day. | 12 " | Extr. bellad. ½ gr. |
| 541 | F. | 1 2 | Bronch. and gastr. cat. | 1 gr. every 3 hours. | 2 " | Sulph. chin. ½ gr. |
| 610 | M. | 2 2 | Bronch. cat., emphys. | 2½ gr. 3 times a day. | 6 " | |
| 628 | M. | 4 6 | Hooping cough, cat. | 1½ gr. " | 8 " | Extr. bellad. ½ gr. |
| 691 | F. | 6 | " " | 1 gr. 4 times a day. | 6 " | " ½ gr. |
| 709 | F. | 1 7 | Bronch. cat. | 1 gr. every 2 hours. | 12 " | |
| 826 | F. | 7 | " | 1 gr. 4 times a day. | | |
| 981 | M. | 5 | Hooping cough, cat. | ¾ gr. " | | Extr. bellad. ½ gr. |
| 1000 | M. | 1 1 | Pneumonia, left, inf. | 1 gr. every 3 hours. | | |
| 1134 | M. | 7 | Pneumonia, left, sup. | 1 gr. every 2 hours. | 4 " | |
| 1144 | M. | 2 | Ditto, Hooping cough. | 1 gr. " | 2 " | |
| | | | | 2 gr. " | 2 " | |
| | | | | 3 gr. 4 times a day. | 8 " | Extr. bellad. ½ gr. |
| 1160 | M. | 2 | Bronchopneumonia. | 2 gr. every 2 hours. | 6 " | |
| 1168 | M. | 1 6 | Pneumo'a, h. cough. | 2 gr. " | 4 " | |
| 1172 | M. | 1 6 | " right, middle. | 2 gr. " | 6 " | |
| 1176 | F. | 3 | Hoop. cough, br. cat. | 1 gr. 3 times a day. | | Extr. bellad. ½ gr. |
| 1261 | M. | 1 1 | Pneu. right, sup., tub. | 1½ gr. every 2 hours. | 4 " | Sulph. chin. ½ gr. |
| 1370 | F. | 2 | Pneumonia, left. | 1 gr. " | | |
| 1373 | M. | 1 6 | Pneumonia, right, inf. | 2 gr. " | | |

Of this number two patients died; one of pneumonia combined with measles, the other of quite recent pneumonia of the

inferior lobe of the left lung, for which she was not treated, after her hooping cough subsided. All the others recovered.

The general result of the dispensary was also obtained in our private practice. We remember a great number of patients of a year and under, who took a grain of the oxysulphuret of antimony every two hours, even every hour, without vomiting more than once or twice, some without vomiting at all. The same occurred with children of two or three years of age, who took doses of two grains, four, and even six or eight times a day, without showing any other result than the desired one. We recollect the case of a boy of two years four months of age, in the basement of No. 158 Leonard street, who while suffering from a severe double pleuro-pneumonia, after having for a while taken somewhat smaller doses, took for four days, either a dose of two and a half grains every two hours, or of five grains every hour; he did not vomit more than once, and that easily, in twenty-four hours, and did not show more than a trace of the doses in the passages, of which he had one daily, before the end of the second day. The pathological alteration of the lungs and pleura was such, that the prognosis was unfavorable from the beginning; but the purpose of the administration of large doses of the remedy was readily accomplished as the patient, in consequence of his easy and copious expectoration, avoided the death of suffocation.

A boy of six months of age has been under our care for the last week, who has taken, every other hour, a dose of a grain and a half, while in the second stage of pneumonia of the left lung. It is true that the infant vomited after the first four doses, but he did not feel the worse for it; only on the third day of his taking the remedy it would be found in the passages, which were not particularly changed from their general normal appearance. When, indeed, children are vomiting after the first, or one of the first, doses of the medicament, we do not see any harm in it; the bronchial secretions cannot be removed in a quicker and generally safer manner.

We omit giving further special reports on individual cases; the diseases we refer to are so common as to be the daily anxiety of every practitioner; and every one will be capable of proving the accuracy of our observations, and the truth of our remarks very speedily. After the favorable results above reported, by means of large doses of the oxysulphuret of antimony, we trust the profession will resort to larger doses, and thus again introduce into their practice a long-forgotten remedy.

But it cannot be too strenuously urged, that the indications for the use of this medicine in inflammatory diseases of the infantile respiratory organs, ought not to be overlooked. Who-

ever contends against the fever of the first onset of pneumonia with the oxysulphuret, will feel sadly disappointed as to the final result. Whoever treats acute bronchitis in the same manner, will soon become aware of his mistake. Its operation is only to liquefy the secretion of the mucous membranes of the respiratory organs.

We think it may be well compared to the preparations of mercury; in the same manner as these effect the liquefaction of plastic exudations and alter the plastic quality of the blood, the oxysulphuret of antimony effects the liquefaction of the secretions of the mucous membranes of the respiratory organs. How this is done it is impossible to determine. At all events some effect on the respiratory nerves is also effected, and possibly much of the result is the consequence of their altered functions. How far, besides, the mucous membranes of other systems are subject to the operation of the medicine, our experience does not fully enable us to say.

It has been used, and is used by us, in inflammations of the larynx, trachea, bronchi, and lungs. After the inflammatory fever is removed, and the disease has reached its highest development, it ought to be given alone or in combination with other agents, in full doses. Not before this stage of the disease can this effect be obtained. We have generally been fortunate enough to see a speedy recovery follow its administration. We need not add, that it renders the best services in common bronchial catarrh, where full and speedy expectoration is wanted. Such were the indications for the use of the oxysulphuret of antimony at the time of its cautious administration long before it appeared to be almost entirely forgotten, particularly in the United States and Great Britain. But the want of knowledge as to its proper use, seems to have impaired the success due to it when used right.

There is but one writer, Neumann (1840), who went as far as to prescribe to adult patients, doses of six or seven grains without producing vomiting, and to confess that he did not see an objection to giving, if necessary, a dose of twenty grains. To this remark, and to the fact, that this remedy has been recommended and administered by us also, in a few large doses daily, in pulmonary emphysema, and, finally, to a remark in Rilliet and Barthez's Manual (vol. iii. chest, chap. viii. art. ix.) on the use of from five-sixths of a grain to thirteen grains, in some cases, of the mineral kermes, we owe the first idea of introducing into our practice the oxysulphuret. We had abandoned it years ago, tired and disappointed with the entire want of success in the use of small doses taught by the manuals on materia medica.

We are aware of the objection to large doses of this remedy,

that it cannot but sometimes produce excessive vomiting. Such a case might occur, but could easily be remedied by diminishing the dose; there is no remedy against which individual idiosyncrasies will not prove rebellious, although given in small doses. Generally, vomiting will not prove of any importance; at least we have been taught so by experience. Furthermore, it is to be kept in mind that there are influences which may be avoided by careful management; it is well known, for instance, that nauseating remedies, although in small quantities, may operate as emetics; thus, a little tartar emetic will, when dissolved in a large quantity of water, prove to operate as an emetic and purgative. On this principle the oxysulphuret of antimony, too, could have a nauseating effect, when brought into further contact with the whole surface of the mucous membrane of the stomach; it is even possible, in our opinion, to produce diarrhœa by diluting the remedy by copious drinking of sugar water or similar things. All this will have to be avoided.

We are less afraid of diarrhœa being produced by spontaneous chemical decomposition, especially by formation of the oxide of antimony, for acids and alkalies can be avoided, and kept from coming into contact with the oxysulphuret, and diet may always be regulated according to circumstances. Further, we scarcely recollect a case where diarrhœa of any importance followed upon the administration of our medicament; at all events, there was none, the cause of which we could look for in the antimony. Third, our preparation, when found in the evacuations of the bowels, is not the result of decomposition.

As to the fact, that the oxysulphuret of antimony is found in the passages a day or two, or three, after commencing its administration, we have had the objection made to our large doses, that they are worthless because of their leaving the organism without exercising any influence. Now we have often experienced the fact, that no difference can be found as to the time (usually the second or third day) when the medicament is visible in the fæces, whether it has been given in large or small doses. Besides, we do not know exactly what the mode of its operation is; perhaps it is not necessary at all to have it entirely dissolved and taken into the system in order to see its full power developed; and besides, we know very well that other remedies appear in the fæces very soon after their having been swallowed, and, like the iron in its several forms and combinations, lose nothing of their medicinal effect.

The last objection to the oxysulphuret of antimony has been, that it belongs to the class of nauseating remedies, and will, undoubtedly, when taken any length of time, affect the appe-

tite of the patients, and thereby injure their strength. Now, we desire our readers to remember what the indications are which require its administration. An inflammatory fever has just been removed by an antiphlogistic treatment; the assimilating functions are almost entirely gone; there is still a fever, and the necessity, at the same time, of furthering the secretion of the mucous membrane and removing exudation. This is the period for the employment of this drug. The appetite cannot be affected, for there is none; if there was, in spite of fever and inflammation, it would be better impaired, in order to keep the digestive functions as inactive as possible. At a later period of the disease, or where danger arises from anæmia, it is certainly necessary to think of the stimulation of appetite, digestion, and assimilation. Then the oxysulphuret of antimony may be combined with iron, with quinine, with rhubarb, or nux vomica, etc., each of which has its own indication. One remedy cannot answer all indications at this period.

We have a single additional remark to make. Our therapeutical observations have generally taught us, that wherever a remedy is really and fully indicated, it is tolerated in large doses. Thus, we have the firm conviction that the large doses of the oxysulphuret of antimony, recommended above, will surely be adopted in general practice, as has been the case with the tartar emetic since the times of Peschier and Rasori, and with the opium since the ingenious and important discoveries of Clark.

50 Amity Street.

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ART. VII.—*A Case of Perforating-Ulcer of the Stomach.* By ADRIAN T. WOODWARD, M.D., Professor of Obstetrics and Diseases of Females, in Castleton Medical College, Vt.

As not a little attention on the part of the medical profession has been directed to Ulceration of the Stomach, and not a little interest felt in research upon the subject, I am disposed to send you the following report of the history of a case which recently came under my observation.

I was called, Sept. 26th, 1858, to visit Miss L., aged 19; full habit, of healthy American parents. I found her suffering acute pain in the pelvic region, with considerable tenderness, tongue slightly coated, natural heat of the surface, and only a moderate degree of thirst. I learned from her, that four weeks previous she had been overtaken by the catamenial climacteric in periodical regularity; that after flowing one day, the discharge suddenly ceased, as she supposed from an imprudent exposure, and since that time she had not felt well, but was

unable to locate the trouble; there was only a general feeling of uneasiness and heaviness unaccompanied by pain. On the previous day (25th Sept.), menstruation again returned, but from some unknown cause had suddenly ceased as before. The only local phenomenon manifested between the two catamenial periods was nausea and vomiting, which had made its appearance one week previous to the last attempt at menstruation. I have since been told by those who saw her at that time that the distress accompanying the vomiting and the retching were very painful to observe. When on the 25th she commenced menstruating, the vomiting, in a measure, though not entirely, subsided, to be renewed again as was supposed, by the stoppage of the menses. No great importance was attached by the patient herself or the family to the vomiting at the time, and from the above history, and from her general condition, I prescribed for what seemed acute suppressio mensium. Sulph morp. gr. $\frac{1}{4}$ to be repeated every second hour until relief from the pain was obtained. Four comp. cath. pills and a warm hip bath to be followed by sinapisms to the thighs. On taking my departure I requested the parents to send for me in the morning should there be no change for the better. I heard nothing from her until 6 P.M., the following day when I was summoned in great haste as she was evidently much worse. On arriving I found that the morphine had not been repeated, as she had grown easier in a short time after the exhibition of the first dose, and had so remained up to 3 P.M., when the pain in the abdomen returned in an aggravated form, and the vomiting, which had continued at intervals during the day, increased. The family had supposed this owing to the constipated condition of the bowels as the cathartic had not operated, and until the return of the distress in the abdomen and its consequent aggravation had not been alarmed by it. Upon seeing the patient, I found her pulseless, with a cold, clammy sweat bathing the entire surface, and humid and catching respiration, with insatiable thirst, and a constant desire to urinate. As the abdomen was very tender, I was unable to satisfy myself as to the distension of the bladder; but feeling it best to err on the side of safety, I introduced a female catheter, whereupon I found the bladder empty. The pain which the patient located in the lower part of the abdomen was most exquisite. I immediately administered diffusible stimulants, with $\frac{1}{4}$ gr. sulph. morphine, and endeavored by every means in my power to rally her, but to no purpose; she died in an hour after my arrival.

*Autopsy.*—Fourteen hours after death. No unusual appearance upon the surface. *Rigor mortis* great. On opening the

abdomen, a fluid resembling in color and odor the contents of the stomach and small intestines was found floating the viscera. After sponging it out, search was made for a perforation, which was found to exist in the anterior wall of the stomach, near the pyloric orifice. A circular opening three-eighths of an inch in diameter pierced every coat of the stomach, which, for a space of three inches in extent around the aperture, was increased to a thickness of at least five eighths of an inch. No other portion of the organ showed any marks of inflammation or ulceration. The peritoneal covering of the small intestines was considerably injected with blood, and the ovaries and mucous lining of the uterus were in a state of congestion.

It is worthy of remark that the subjects of nearly all the reported cases of this disease have been young females of a healthy habit, plump, and in good condition.

I cannot refrain from adding in this connection, although it has no relation whatever to the subject of this article, that on this subject the ruptured Graafian follicle was perfectly demonstrable, showing, as did another case in which I had the rare opportunity to make a post-mortem examination upon a female who died upon the first day of the *show*, that in *some* cases, and it is fair to infer, *usually*, the Graafian vesicle is ruptured at an early day of the catamenial climacteric.

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ART. VIII.—*Report of the Proceedings of the Medical Societies and the Practice of Hospitals of New York.*

BELLEVUE HOSPITAL—CLINICAL INSTRUCTION.

THE annual course of the winter session of Clinical instruction at this great Charity of New York, was opened on the 18th of October, 1858, when the introductory lecture to the several courses of clinical illustration and practice was delivered by JOHN W. FRANCIS, M.D., LL.D., the President of the Medical Board, in the new and spacious operating theatre recently finished. The discourse was delivered to a crowded assembly of medical men and students of medicine, many from the remotest parts of the Union, and was received with deserved approbation. It embraced among much matter of a collateral character, a history of the origin and progress of anatomical preparations, and illustrations of the estimation in which the art was held and its continued importance from the time of Swammerdam and Ruysch, of Holland, down to the latest period of science. We extract from a portion of the discourse a brief selection of occurrences, including the times of the Hunters, down to the transactions of a like nature in New York, and in some of the other institutions of the republic. We have learned that this address, at the request of the students, is about to appear entire from the press :

Pregnant with glory as are the annals of British medicine and surgery, and enduring as must be our gratitude for the advancement our profession is admitted to have received from English science, there are two names that stand above all others of that empire to whom must be awarded a special preëminence for their labors. I allude to William and John Hunter. As anatomical and physiological pursuits are now conducted, we are compelled to revert to these great men as the most successful explorers of the human structure during the march of modern improvement. Their lives have been amply written, and at a future time you may enrich your memories by a perusal of their achievements. Notwithstanding the advances recently made in the same subjects of inquiry which once summoned their close attention for years, their writings are still perused as every-day books. Rigid dissection and minute anatomy are the grounds upon which their merits rest; and seldom, indeed, in this our own time, does much controversy arise out of their revelations. While living, they met with opposition enough, but the arguments, *pro* and *con*, have settled in the conviction that an almost Baconian accuracy characterizes their deductions. This is especially the case with the writings of William, the elder brother. His 'Anatomy of the Gravid Uterus' is the rock upon which his fame rests. No subsequent writer has attempted to rival it, and though contentions have sprung up as to his account of the membrana decidua et reflexa, I am satisfied by ocular proofs of his preparations, that he had the best reasons for his description.

His minute and elaborate work was the result of twenty-five years' labor. I cannot speak of his other writings on this occasion. He was every inch of him a philosopher. Of John Hunter, his writings announce the originality of his mind: he was a practical surgeon; as a deep physiologist and pathologist he did more than even his renowned brother, and his name is consecrated in the history of medical transactions. But I must not usurp the duties of your teachers. I must leave to Dr. Mott, and to Dr. Van Buren; to Dr. Dalton, and Dr. Metcalfe, and Dr. Clark, and your other instructors, the task of specifying his merits. With little learning, but an untrammelled intellect, John Hunter discovered, with wonderful acuteness, unsuspected truths, and his reflections were marked by a rationality which generally led to the strongest convictions. What raptures must have filled his soul when he saw that his discoveries had secured a deathless fame. How he must have revelled in the luxury of genius. He was poor, but were not his possessions greater than those of emperor or king, and could he not, in defiance of worldly pomp, exclaim: "My mind to me a kingdom is?" He had spent more than ninety thousand guineas in anatomical investigations. Garthshore one day entering his museum, and finding him busily engaged, exclaimed: "Oh, John, you are always at work." "I am," replied Hunter; "and when I am dead, you will not soon meet with another John Hunter." His copious volumes are full of practical import. He was a mighty reformer in surgical doctrines, and in physiological and pathological principles. He was of no school. He was nature's interpreter. I can hardly say in how many branches

of our art he was an innovator and a discoverer, as well in comparative anatomy as in vegetable physiology. He profoundly investigated the nature of life and the origin of disease. He passed almost an entire ten years, at one period, in the dissecting-room, sometimes aided by Cheselden, sometimes by Percival Pott. Abernethy delighted to recount stories of his peculiarities, to which I have repeatedly listened; of his provoked mind, from a want of command of language, correctly to set down his thoughts ; and of his determination to allow himself but four hours sleep at night, while after his dinner he generally took a siesta of some two hours, though the books, said Abernethy, affirm only one ; and this plan was adopted in conformity to his physiological laws, that digestion was a great function, and demanded repose.

He who would know how liberally the Hunters appropriated their hard earnings of professional life, and the incredible amount of good they accomplished for the advancement of medical knowledge, will profit by their biographies, and reverence both the heads and the hearts of these illustrious men. Like the Bernoulli in mathematics, they have earned an immortality of fame. Their claims to the regard of posterity are unbounded. From humble life and extreme obscurity, they were by individual effort raised to the highest eminence in the scientific world.

Their reputations, however, do not depend upon biographical facts, nor even on their precious writings; these, indeed, are accessible to all, and all may grow wiser by them. They have left the monuments of their renown, erected by their inflexible perseverance, in the great collections which they formed of anatomical preparations, and as these are open to the inspection of the world, the Hunterian Museum in Glasgow and that in London will speak in louder accents in behalf of their founders than the eulogy of the warmest friend, or the most erudite mind.

Sir Everard Home has published quartos descriptive of the Hunterian collections. As these museums are objects of inquiry to all travellers, I, of course, could not forego the pleasure of a sight of them ; they, moreover, fell within the scope of my professional business. To examine them with profitable results, would have demanded months, nay, years. Even a partial survey strikes the beholder with wonder at their magnitude ; and their exquisite beauty and perfection almost discredit the idea that they are the work of mortal hands. Wherever there was life, Hunter sought out its organization, the better to unfold its phenomena. He stands alone. Were I to estimate him by his genius and his studies, I would not hesitate to class him among astute theologians, so sublime were his pursuits, to vindicate the ways of God to man. "To prove an intelligent Creator," says Archdeacon Paley, "I take my stand in human anatomy."

From the monad, or primary molecule, to the perfect formation of the mature being, all is illustrated; the most minute specimens of sound and morbid anatomy are brought to view, and every article arranged in its relation with the laws of organic life and development. Here, I repeat, the man of research will find every species of animated being, or

link in organization, from the humblest vegetable to organic man. What a revelation of created wisdom is thus unfolded! All—all the work of two individuals. What devotion must have inspired John Hunter—what seclusion from the world and its gaieties must have reigned within his mighty bosom, so to absent him from society, in order to seize time for his vast work. I again repeat, the soul is penetrated at the sublime manifestations which weigh upon the heart by an inspection of these collections.

There are those who have compared the labors of John Hunter to the Principia of Newton, and of the number who have uttered this language is the late Joseph Adams; but this is going too far. There are others, composed of the baser materials of our natures, who with malign intent, have denied his services, and dwelt upon his unlettered cultivation; precisely after the manner that James Watt was pronounced to have done nothing for the perfection of the steam-engine, or Fulton to possess no merits in steam navigation. I will not insult you by recording the names of such miserable detractors; the poverty of my diction permits me not to characterize them better. Let Stygian darkness ever cover them, even if they escape the vengeance of heaven. It was, doubtless, too much for Hunter's miserable opponents to endure, when the world rang with John Hunter's praises: as they could not secure to themselves the penalty of celebrity, nothing was left them but to imitate the owl who, we are told, declares the eagle blind. Hunter, though of an irritable temperament, with many struggles, endured all, conscious of his deserts. Tell me if any of you have, at any time, read either in fable or in history, that the elephant ever complained of the too great size of other animals.

The history of all art, the history of every science, yields this instructive truth, that great discoveries are, after all, the issue of preceding investigations; it is step by step that our art, in many hands, and by the workings of many minds, has arrived at its present exalted state. Read Brucker or read Whewell, you will find this fact abundantly verified in the history of philosophy: a partial exception may perhaps be found with Sir Isaac Newton on optics; and in the case of John Hunter it would seem that by an intuitive sagacity he at once seized upon essential principles not dwelt upon before, and disclosed to our comprehension new laws of organic life and new curative means of relief. When Dr. Pearson led me to the apartment of St. George's Hospital, and pointed out the place where Hunter fell dead, with a disease of the heart, I felt as though I stood on a consecrated spot. Don't you think, after all, that his death was noble; he died vindicating the rights of a student. He possessed an impetuous nature, but he had the tenderness of genius.

The world has produced but one Aristotle, one Bacon, one Newton, one Franklin, one Washington, one John Hunter, men who have individually demonstrated what special acquisitions in assigned services may accomplish. Let us at all times, with charity, tolerate diversity of opinion, but let us unite in one sentiment, that John Hunter stamped the impress of original powers on the noble art of healing, and enlarged

the sphere of its benefits. We may further affirm, that the acute mental perceptions of John Hunter, by the appropriation of his vast gifts, have given us, in his museum, a book of wisdom, which, like the inspired volume, may be deemed an emanation of profoundest thought, and which has taught man how fearful and wonderfully he is made; that only a Divine Architect could have been his creator; and while it admonishes us that the wisest provision is made for his proper continuance, tells us his economy is neither to be molested by the presumptuous, nor tampered with by the ignorant unacquainted with its mysterious harmony.

These few reflections on these great museums bring forcibly to my recollection the gratification I experienced, through the courtesy of the anatomical professor, from an examination of the collection of preparations of sound and morbid parts, in the College at Dublin, in 1816, brought together chiefly through the zeal and talents of Macartney. Next, I think, to those contained in the museums of the Hunters, they exhibited the nearest displays towards perfection in artistic manipulation and soundness of preservation. Macartney was long an efficient aid in St. Bartholomew's Hospital, with Abernethy, and the translator of Cuvier's Anatomy of the Brain.

Whether this address, prolonged beyond the limits of my first intentions, has inspired you with the importance of anatomy, and in the right means of acquiring a knowledge of it, by dissection, by the use of the knife, the forceps, and your own faculties of observation, is the secret of your own bosoms. I might go much further to point out the value of dexterous manipulation in the dissecting-room, preparatory to the skillful display of chirurgical tact in the sick chamber, were I to adduce other illustrations of the exalted condition of surgical anatomy and pathology, as it is recognized at the present day, and cultivated in Europe, and in our own country. But the question is no longer debatable. You have, very lately, a triumphant specimen of the results of labor and talent in that field in the works of Dr. Gross, now a distinguished professor in Philadelphia.

Leaving then the subject, treated indeed but very imperfectly, I shall close with a few scattered observations on the history of anatomical preparations in the United States; so far only, however, as to impress you with the fact that something has been accomplished among us, and that the ardor which now presses forward the pursuit must effect results prolific of lasting benefit.

In a recent lecture I gave you some particulars derived from our early Dutch records, of a post-mortem examination of the body of Sloughter, the English governor of New York. This occurred as early as in 1691. It is the first autopsic examination that ever occurred in the American colonies. The governor, it was affirmed, had died by poison, but no proofs of that nature could be derived from the doctors' post-mortem testimony. The fact is, the governor died from a debauch; and it doubtless furnished the Dutch faculty with a gratifying spectacle to exercise their functions over a worthless ruler, whose moral and political life was at variance with the ethics of the good old burgomasters,

and whose inebriation proved to be the death of the patriotic Leisler.

The earliest anatomical dissection for imparting medical knowledge was performed also in this city, on the body of a convicted felon, Hermanus Carrol, by Doctors John Bard and Peter Middleton, in 1750. Only two years after there arrived from Scotland, William Hunter, at Rhode Island. He was a near relative of Wm. and John Hunter. The emigrant Hunter was now only twenty-three years old ; but he had studied with the elder Monro and at Leyden. He gave lectures at Newport in the years 1754, '5, and '6. They were reported to have been of a high order of instruction : he was long a prominent practitioner and a bold surgeon : he died in 1777. Hunter's lectures were, doubtless, the first regular course of practical anatomy founded on dissections taught in America. We have no means of knowing what might have been the contents of his museum, as his library and other effects were dispersed by the revolutionary struggle.

There is a name in the English history of anatomical preparations most conspicuous and familiar to all who are acquainted with the biographies of Monro secundus, William Hunter, Morgagni, Mead and others. I allude to Dr. Frank Nichol. He was born in London, had visited the schools of France and Italy, was graduated at Oxford, and finally became one of the physicians of the king. It was during the middle of the eighteenth century that he signalized himself by making fine and highly finished preparations, which attracted the attention of the faculty. I mention him specially because a portion, I cannot tell to what extent, of his great collection of injections was given by his son, a member of the British parliament, to Ward Nicholas Boylston, of Boston, for Harvard University ; but the year is not specified. As Nichol died in 1778, it must have been nearly at the close of the century. I have often heard Samuel Bard and Wright Post talk of Nichol's talents in that vocation.

A collection of preparations illustrative of some points in sound and morbid anatomy, found a location in Pennsylvania for the Philadelphia school about the same time, the gift of the late Dr. A. Chovet. This incipient movement to establish a museum of anatomical preparations in the great medical school of Philadelphia, we are told, has been followed by many distinguished laborers in the honorable work within late years ; and, if report deceive us not, the enterprise of Dr. Goddard, and the capacity and zeal of that remarkable man, Dr. Leidy, have already given exhibitions of skill in that peculiar line of scientific and artistic power, which held out to the profession lasting results of highest value to anatomical knowledge.

An effort of no ordinary character to create an anatomical museum for the College of New York, was made by the late Dr. Richard Bayley, of this city. What attempts of that nature had been made by his predecessor in the medical school established in 1768, in which Dr. Clossey was appointed professor, we cannot affirm with accuracy. A portion, however, of what had been collected, as well as a portion of the labors of Bayley, were destroyed by the Doctor's Riot, which

took place in this city in 1788. The imprudent exposure of a limb by the students excited the populace : the mob broke into the building, the New York Hospital, where they found Bayley's valuable cabinet, which they forthwith heaped into carts, carried out, and triumphantly burned. Little was left, but to that little, the able Dr. Wright Post added specimens of his own skill ; the collection was afterwards enlarged by additions imported by Dr. Post, and with awaked zeal, Valentine Mott, Henry W. Onderdonk, John Van Buren, and Guy Carlton Bayley, and others, increased the number. This valuable collection is now in the possession of the College of Physicians and Surgeons of this city, and I must refer you to Professor Willard Parker for more minute details concerning a museum, the result of many minds and many hands.

At the time I first began my medical pupilage, there arrived among us a Dr. Alexander Ramsey, who bore the repute of a distinguished lecturer on anatomy. He had studied with Cruikshank, of London, and was famed for his anatomical preparations. He was chosen to deliver a short course of lectures on anatomy and physiology, in Columbia College. Of his professional knowledge there could be no doubt, but his grotesque person, his unbounded vanity and hauteur, his arrogance and pomp excited the risibles of the whole class. Crooked back, with neck scarcely half an inch in elevation, with a head of huge dimensions, arms lengthened as if of the simia tribe, and person not five feet in height, he seemed created by nature in one of her whimsical moods. He was ever illustrating the harmonies of creation by reference to his own symmetrical development, and to the philosophy taught him by his master, Cruikshank. His career was short among us, but some of the old doctors, still flourishing, must retain a recollection of him. He was called at times the Calaban of science. The ridicule which he provoked while teaching forbade the acquisition of much information by the student. Yet even this Scotch lecturer in some degree aroused attention to anatomy, and as some of his preparations of the absorbents and of the heart were deposited here, he may be said to have promoted our special study. Ramsey had adopted the notion that the bite of the rattlesnake was rendered innoxious by alkalies ; an opinion sustained by Ramsey, of South Carolina, our old friend Dr. Mitchill of New York, and by others who adopted the theory of the acidum pingue of De la Boe. Ramsey was adventurous enough to test the theory by an experiment on his own person ; he allowed himself to be bitten—contrary to the usual action of that poison, he lingered in suffering, and finally died.

The making of anatomical preparations by the students of our rival medical schools, the occasional importation of specimens of singular value from Europe, the broad and convincing fact that anatomy is the groundwork of a surgical and medical education, have caused the production of many precious displays of the art in these our own days. The great chirurgical achievements of the profession in this city for the last twenty or thirty years, and the value of such evidence of patient study set forth by the teachers of our respective schools, have contributed largely to promote the strongest desire in the student to excel

in such labors; and our leading men who assume the proper instructions of students now very generally aim to be furnished with museums more or less ample.

A fact strikingly illustrative of the general desire to found museums of this nature as important adjuvants to the several branches of instruction in the medical art has been most happily evinced by the clinical faculty of our venerable and venerated New York Hospital. I have intimated that at an early day the salutary work was commenced; the public disasters of the times, however, arrested the undertaking, and it is only within the past few years that renewed efforts have been made for its accomplishment. The foundation is now laid; the work is in progress, and it is conceded by all, promises to fulfill the highest expectations. An institution like the New York Hospital cannot fail to furnish materials of most instructive import for the great design; the quotidian laborers of that vast charity must supply specimens profitable to student and professor; her long list of surgical worthies recognized in Cheesman, Post, Buck, Watts, Watson, Parker, Van Buren, Sabine, give confidence that a museum of rare acquisition will ere long add further means to those already secured for elucidating clinical science. I am informed that the immediate conservators of this new collection are Dr. Agnew and Dr. Bayles.

I was not indifferent to this department of knowledge during my twenty years' services as Professor in the College of Physicians and Surgeons and in Rutgers' Medical College. The collection I formed during that period might claim notice from its extent and the nature of the preparations. I had gifts, I purchased, and I prepared. The phenomena of death by lightning, by the drinking of cold water when overheated, cases of death by sun-stroke, instances of poison, yielded specimens of singular value; and as medical witness for nearly seven years in our courts of oyer and terminer, I was compelled in all criminal cases to ground my report on autopsic examinations. In obstetrical knowledge I had much of interest, in illustration of changes and infirmities of the uterine system. This collection is now transferred to Geneva College, an institution of rising importance as a medical school.

From want of time, I shall forbear to dwell upon the collection of preparations illustrative of surgical cases at the hospital at Ward's Island, under the direction of the able surgeon-in-chief, Prof. Carnochan, and the valuable collection of your surgeon, Dr. James R. Wood, of the Bellevue Hospital. The display of anatomical skill and surgical prowess which Dr. Wood's collection presents, aided by Dr. Gouley and others, will in the course of the season enlarge your minds with principles confirmatory of what I have advanced in this lecture, and say more in behalf of the zeal and ability of your teacher than any words can express. Proofs of such skill yield more satisfaction by illustration and example than the most elaborate disquisitions.

I shall close these casual remarks on the history and progress of anatomical preparations with an observation or two on the publication which within a few days past has been generously distributed among

you by the venerable Professor Valentine Mott. The devotion and life-long labors of this great practical surgeon and teacher are familiarly known to you all. Nothing but anatomy—surgical, topographical, minute anatomy—could ever have secured the mighty triumphs which enshrine his name. He had received a sound education, and had graduated M.D. at Columbia College in 1806; but he was not satisfied, and repaired to Europe for a residence of nearly three years. He became a pupil of Henry Cline, of Astley Cooper, and of John Abernethy, and from this unadulterated fountain-head he derived that knowledge which has rendered him the contemporary and the legitimate successor of those master minds. As he had wisely repaired abroad for that information which at the beginning of his professional career could only in part be obtained at home, he became enriched with that wisdom which opportunity, labor, study, self-denial and perseverance alone can give. His reputation as a student was announced to his countrymen ere his return among us. In the spring of 1810, he issued a notice of a course of surgical lectures which I, a young student, had the gratification to hear, surrounded by many of the old practitioners of medicine. In the fall of 1810, he enlarged his plan, and the Professorship of Anatomy and Surgery, held by Dr. Wright Post, being divided, to Dr. Mott was assigned Surgery. Now it was that chirurgical science was taught as a distinct course in this country, and the talents and acquirements of this young professor demonstrated that his credentials in behalf of his high promotion justified the ample confidence the trustees of Columbia College had cherished. You will thus see that for nearly half a century Dr. Mott has filled the responsible trust of instructor of chirurgical knowledge in this city. No other individual in the country has been thus employed for so long a period; no other teacher in the land has discharged the great duty with such vast benefits to the public weal. We must look to the army of youths whom he has indoctrinated to understand the merits of his prelections, and to the practical results which have flowed from the demonstrations of science and skill made manifest at his hand. I know that in the several institutions in which he has formed an integrant part he has been estimated at that consideration which superior merit alone attains; that the great art has been amplified by his inventive resources and his indomitable zeal; that the annals of American surgery are fertile of his great improvements; and that his name can never be lost while philosophy honors her votaries, and while humanity cherishes the sympathies of our common nature. I devoutly believe that the preëminent consequence with which surgery is regarded at the present day throughout our wide republic owes much to his unparalleled career as its master, and that its now elevated superstructure rests mainly upon the strong foundation of his professional skill.

With peculiar satisfaction, therefore, I refer you to the surgical museum of preparations, an account of which has been published by Dr. Mott. Its treasures are mainly the fruits of his operative qualifications, illustrated by the ripe labors of fifty years; the whole collection, we are told, is almost altogether composed of specimens made from his indi-

vidual cases of practice. I shall forbear any enumeration at present. Well may Astley Cooper have exclaimed, when hearing of the bold and intrepid operations of his American rival, "He has performed more of the great operations than any other man living or that ever did live!" That great museum is accessible to every one of you in its appropriate hall in the Medical University of New York.

Gentlemen: I will trespass on your patience no longer. I have appealed to your intellectual nature to acquire science as the legitimate and effective substitute for the overthrow of empiricism; and fortified in that possession, practice, as its associate, will prove the exponent of your knowledge. The struggle of professional life to secure success demands the why and the wherefore, and the mastery of such reasoning is your great reliance. I think I have said sufficient to impress you with the conviction that in repairing here you have come to an institution rich in substantial materials for elucidation; among men who drink from a living spring of active practical knowledge; and such men, according to Locke, are the proper instructors. Here is no stagnant pool: the slough of despond is not visible. It is for you to catch the life and spirit of the place and of its actors. I am done.

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## ACADEMY OF MEDICINE.

Regular Meeting, Oct. 1858, Dr. S. C. Foster, *V. P., in the Chair.*

### PUERPERAL FEVER.

Dr. Barker said:—One year ago this evening I had the honor of offering to the Academy some remarks on the pathology and therapeutics of puerperal fever. Since that time this body has been mainly engaged, during four of its sessions, by the consideration of this important subject. The Academy of Medicine in Paris have also been engrossed in a most zealous discussion of the same subject for many months past, in which M.M. Beau, Caseaux, Cruveilhier, Danyau, Depaul, Dubois, Guérin, Hervez de Chégoin, Trousseau, Velpeau and others have participated, a list of names comprising the first talent of that body. Many articles have also appeared in the French medical press, among which I should mention as specially valuable, those by M. Jaquemier, in the *Gazette Hebdomadaire*, and those by M. Behier, in *L'Union Médicale.*

I may also add, that during the last twelve months, my practical experience in this disease has been greatly enlarged both in hospital and in private practice, as we have not only had the misfortune of encountering it in the Lying-in Wards of Bellevue Hospital, but it has also been unusually rife in this city. From October, 1857, to October, 1858, one hundred and seventy-three deaths from puerperal fever have been reported at the City Inspector's office.

The following table gives the deaths from puerperal fever for each month, and it is interesting to note the parallelism between the deaths from this disease and erysipelas:

| Disease. | Oct. 1857 | Nov 1857 | Dec 1857 | Jan 1858 | Feb 1858 | Mar 1858 | Apr 1858 | May 1858 | June 1858 | July 1858 | Aug 1858 | Sept 1858 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Puerperal Fever, | 5 | 9 | 14 | 17 | 26 | 21 | 21 | 19 | 13 | 13 | 9 | 6 |
| Erysipelas, . . | 4 | 6 | 16 | 13 | 20 | 14 | 23 | 21 | 8 | 13 | 5 | 3 |

In Paris there has certainly been afforded an immense field for studying this disease, as in five years, 1852–56, 644 deaths have occurred, in six of the principal hospitals, from puerperal fever.

I may be pardoned for saying, that I have most carefully and conscientiously read all that has appeared in the French medical journals, and that I have observed, with the most earnest desire for truth, in order that I might correct any error in reasoning or deduction, into which I may have previously fallen.

Before alluding to some points, in regard to the pathology of this affection, I will give a very brief summary of the views of the principal speakers in the French Academy. The discussion originated with M. Guérard, who stated his belief, that so far as the nature of the disease was concerned, we must look for something beyond the mere local lesions, and that its phenomena cannot be explained by means of purulent infection. M. Depaul was the most able advocate of the doctrine of the essentiality of puerperal fever, although instead of the term, puerperal fever, he would prefer calling it puerperal typhus, or puerperal septicæmia. He believes that its essential character consists in a primary alteration in the blood.

In the autopsies which he has made, he has uniformly found the blood in this disease to possess a peculiar fluidity, and to be generally of a violet red color, easily impregnating and coloring the tissues. It often also presents a remarkably oily appearance, and coagulates with difficulty. He quotes from Vogel (in Virchow's Handbuch), who states that lactic acid confers an acidity upon the blood in this disease, and that in some cases carbonate of ammonia, in others the hydrosulphate, is found in it. The fluid loses its aptitude for coagulation as do the globules to redden on the contact of air, and therefore their fitness for the respiratory act. The globules are in part decomposed and dissolved in the serum, giving it a reddish or dirty brown color. Scanzoni asserts that in some cases there is an increase of fibrin, in others a true pyæmia, the constituent elements continuing in their normal proportions, and in others, again, a true putrefactive dissolution or septicæmia. M. Depaul regards the epidemic occurrence of this disease as presumptive proof of its essentiality. He, also, as do several of the other speakers in the French Academy, refers to the fact, that the lesions of the solids are of the most varying character, and that in some fatal cases, these do not exist at all, nothing being appreciable, save alterations in the blood. M. Beau considers puerperal fever as due to local inflammation (most frequently of the peritoneum), united to an inflammatory diathesis depending upon an alteration of the blood—this alteration being an increase of the fibrin, a characteristic of inflamma-

tion. In the opinion of M. Piorry, the disease in question is primarily a metritis, phlebitis or peritonitis, septicæmia or pyæmia. M. Caseaux, also believes that it belongs to the phlegmasiæ. Jacquemier, Legroux, and Behier hold similar views. M. Bouillaud considers it due to purulent or putrid infection with an inflammatory element. Velpeau holds that it is a metro-peritonitis, a lymphangitis, or phlebitis (purulent infection), modified by the puerperal state. Trousseau considers it as a phlegmasiæ of a peculiar kind due to a specific cause. Hervez de Chégoin sees in puerperal fever only the results of purulent or putrid infection. Dubois, Depaul, Danyau, and Guérard were the only members of the French Academy who advocated the opinion that puerperal fever is an essential disease, not dependent at all upon local inflammation. M. Cruveilhier considers this disease as both a fever and an inflammation, and expresses his opinion in nearly the same words that Dr. Clark used in this academy six months before. In common also with Dr. Clark, he regards the anatomical lesions as an essential feature in the disease. The following are his conclusions :

1. Puerperal fever is essentially a traumatic fever.

2. The special conditions in which the uterine and the entire organism of the woman who has just been in labor constitutes what may be called puerperal traumatism.

3. The essential anatomical characters of puerperal fever are peritonitis, sub-peritonitis, or purulent lymphangitis. Purulent uterine phlebitis is incomparably more rare than suppurative lymphangitis.

4. It is extremely probable that purulent inflammation of the lymphatic vessels is a cause of the intoxication of the blood in puerperal fever—but this intoxication does not manifest itself by visceral abscesses, as happens in purulent phlebitis.

5. The possibility of purulent infection of the blood by suppurative lymphangitis is not decided in a positive manner.

Now I do not propose to go over the ground of my former remarks, and give my reasons for believing that puerperal fever is an idiopathic fever, which originates from a poisoned state of the blood, and that the quasi inflammatory processes which generally occur in this disease are in reality the results of poison, stirring up its peculiar excitement wherever it finds the proper amount of combined irritation and exhaustion to insure it a nidus, just as the poison of typhus fever awakens its pseudo-inflammations in the intestines, the lungs, and the brain. I will only express my belief parenthetically, that the lesions commonly found in puerperal fever are not due at all to inflammation, but to a pathological process entirely dissimilar and in many respects antagonistic to inflammation. The whole doctrine of inflammation is now in a transition state. Whether the essential characteristics of inflammation be, as Professor Bennett says, an exudation of the normal liquor sanguinis, or in the words of Professor Alison, inflammation is altered nutrition, it seems to me that the lesions found in puerperal fever, indicating destructive disorganization, are of an entirely different character. I should not allude to this point, were it not for a strong conviction that pathological errors in these particulars have led to grave therapeutical errors.

There has been one striking difference between the discussion in the Academy of France and this body, and that is, that in the former, the great majority who have spoken have advocated the doctrine that the phenomena characteristic of puerperal fever are the results of a local phlegmasia, while this view has not found a single advocate here. Holding the views I do, I must regard this as a matter of mutual congratulation. But there is another point, which has not only an important bearing on this question but on general pathology, and is equally interesting to the obstetrician, the surgeon, and the physician, on which I beg leave to dwell for a few moments, and that is the question of purulent or putrid infection, or of pyæmia and of septicæmia.

As regards this subject there is a greater harmony of views between one of our members, who has taken the most prominent part in this discussion, and several of the distinguished speakers in the French Academy. In order that I may do full justice to Dr. Clark, I quote from the *New York Journal of Medicine.* Dr. Clark said "It was his object, on a former occasion, to show that these cases (the cases, which in the belief of Simpson, Gooch, and others, were without lesion of any kind—a simple fever, the poison of which overwhelmed the vital powers,) were no exceptions to the general rule, but that they were really marked by inflammation, like the others, but that the inflammation was one that had escaped detection, that it was an endometritis, and that the inflammation affecting the inner surface of the uterus involved the open or valvular mouths of the uterine veins, and might produce purulent contamination of the system, while no pus was found in the veins themselves after death. The evidence of this was in the inflammatory exudation on the inside of the surface of the uterus; the redness of the uterine structure, penetrating a minute distance from within outward; the symptoms of pyæmia and the discovery of pus in distant organs. To present this idea was the chief object of his former remarks, and to give it distinctness he had referred to and recognized the then commonly described inflammatory lesions, viz. the peritonitis, the purulent phlebitis in the uterine sinuses, and the purulent inflammation of the uterine lymphatics. These, together with endometritis, he had stated were the primary *inflammatory* lesions, and that there were other organs subject to inflammation in a subordinate and secondary degree." In another place he asks, "whether the shortest time" (in which the most malignant form of puerperal fever destroys life), "is not long enough for endometritis to produce fatal contamination of the blood? or, in other words, in what time purulent infection can overwhelm the vital forces?" After giving a condensed summary of the experiments of Sedillot, in injecting laudable and fœtid pus into the veins of dogs, Dr. Clark remarks, "the import of these experiments, and their relation to the disease we are considering, hardly require comment, especially when it is remembered, that the uterine cavity is open to the ready access of air, that when inflammation is recognized on its inner surface, it has often been of a character most likely to furnish a septic agent, healthy or degenerated pus, in an augmented, and consequently accumulated stream. These extracts show the importance with which

Dr. Clark regards purulent contamination and putrid infection in developing the phenomena of puerperal fever. In the French Academy, M. Velpeau endeavored to prove that it results from purulent infection, and Hervez de Chégoin, that it is due to putrid infection. In my former remarks I expressed a doubt, whether pus, the product of simple ordinary inflammation, if absorbed or washed into the circulating blood, will produce the symptoms which we call pyæmia, or whether, in fact, another element besides laudable pus is not essential for the production of these phenomena. As to the effects of putrid pus when mingled with the circulation, there is no doubt, for this has been demonstrated by the experiments of numerous competent observers. But with Dubois I hold, that neither purulent contamination or putrid infection have anything to do with the development of the disease, but that it results from a special poison of the blood, the essence of which is unknown, but the effects of which are very manifest. I believe this to be true of all that class of cases called pyæmia, whether puerperal, traumatic, or idiopathic, and that the extensive and disseminated suppuration are a result of this poison, and not a cause of the disease. The doctrine generally accepted is, that purulent contamination originates in a phlebitis. Now, simple phlebitis alone is not a disease of great severity. It is often met with, wherever there is a traumatic injury or solution of continuity, and it may involve the whole extent of a limb without any great danger, and very rarely has a fatal termination. But sometimes comparatively trivial causes, very slight injuries, are followed by a train of symptoms, the aggregate of which constitute pyæmia, and terminate fatally. Trousseau mentions, that at the Hôpital Clinique in the service of M. Cloquet, four patients died after the following slight operations, one resulting from forced catheterism, another from depressing a cataract, a third from a slight incision for fissure of the anus, and the fourth was a woman who had a slight incision made in the arm for the extraction of a needle.

Puerperal fever was prevailing in the hospital at this time in the service of M. Dubois. Parallel facts have long been observed by surgeons, and I think I may safely refer to the surgical members of this body to confirm the statement, that during the past winter and spring, there has been an unusual tendency to the development of pyæmia. How can such cases as the above be explained by the doctrine of purulent contamination? It is a matter of common observation that large abscesses are absorbed and eliminated without occasioning so-called purulent infection. Dr. Bennett relates a very interesting case of pyæmia, terminating fatally, following acute articular rheumatism. Pus was found in the head, the chest, and the joints. There was no phlebitis. Dr. Watson, in his lectures, relates two cases, in which the autopsic results were strikingly like this, but the constitutional disease was preceeded by otorrhea and abscess in the ear. Pyæmia is a very rare and exceptional result of the traumatic lesions above mentioned, and equally or more so of the diseases referred to, viz., acute articular rheumatism and otorrhea. Neither is it one of the natural terminations of endometritis, uterine phlebitis, or suppurative inflammation of the

uterine lymphatics, nor is there any reason for believing that these diseases are liable, when not associated with some other morbific element, to produce fatal contamination of the blood. I cannot, therefore, see what bearing the anatomical structure of the uterine sinuses, on which Dr. Clark laid so much stress in his remarks on the first evening in which he discussed this subject, has upon puerperal fever. Even if those cases described by Gooch, Locock, Simpson, and others, as without lesion, were cases of pyæmia, it does not follow that the pyæmia had its source in the inflammation of the inner surface of the uterus. If the more careful and microscopic examination of modern times had been able to reveal the existence of pus in minute quantities in the uterine sinuses, it does not follow that this pus was the source of the fatal contamination of the blood. It must be remembered that these sinuses constitute a special vascular apparatus, pertaining to the uteroplacental circulation, and disappearing when complete involution of the uterus has taken place. Admitting, then, the doctrine of purulent contamination as ordinarily received, pus found in these uterine sinuses must have a very trivial influence on the general system as compared with pus found in the crural, the ovaric, or the iliac veins. Furthermore, microscopic investigations have proved, as Trousseau asserted, and Dr. Clark the other evening admitted, that the absorption of pus is a physical impossibility, the pus globules being larger than the calibre of the capillaries. In the cases of absorption and elimination of the pus of large abscesses before alluded to, the pus corpuscles must first be disintegrated and reduced to a fluid condition. The doctrine of putrid infection is equally untenable. If the retention of a certain quantity of liquid or coagulated blood can produce toxæmia and the effects supposed to be due to this, then a natural, constant, and inoffensive condition would be converted into a permanent and formidable danger, for there is no hemorrhage attending labor which is not followed by putrid infection, as there are always some clots retained and altered in the genital passages. These are briefly my reasons for rejecting the doctrine of purulent contamination as the source of puerperal fever. I do not, however, wish to be understood as asserting that there are no cases of putrid infection which destroy the life of the puerperal woman, for the contrary is my belief. It does sometimes occur from the retention of a portion of the placenta, or of clots which are decomposed within the cavity of the uterus, and in some rare instances from gangrene of the internal surface of the uterus. One case of the latter occurred in my service at Bellevue Hospital. But these cases are quite distinct from puerperal fever, and the differential diagnosis is very easily made out. No one practically familiar with puerperal fever as an epidemic or a sporadic disease, would confound them. In putrid infection the chills are very slight, and recur irregularly and frequently. The tongue is dry and cracked, the teeth and lips are covered with sordes, the countenance exhibits a peculiarly haggard and frightened expression, and hectic fever and colliquative diarrhœa appear at an early period. There is also usually marked subsultus, insomnia, muttering delirium, and abdominal meteorism without pain. The lochial discharge

is always extremely offensive. It sometimes is absent, but when this happens, a vaginal examination will give unmistakable proof of the odor of putrescence.

Any or all of the above symptoms may be absent in puerperal fever, and they are never found combined in their entirety. The lochia, for example, is sometimes suppressed suddenly without producing any symptoms, or it may continue unchanged in quality or quantity. It may, to be sure, be very offensive, but this is unattended with the symptoms above enumerated as pertaining to putrid infection.

Puerperal fever, then, is something more and something different from purulent contamination or putrid infection. It is a constitutional disease, primarily acting on the blood. To parody the words of Dr. Meigs, "the constitutional affection leads the train, and brings on the topical lesions after an indispensable preliminary incubation." There are a uniformity and constancy in its symptoms which bear no relation to its local lesions, which are infinitely varied, and in some well authenticated cases no palpable lesions have been found. If they existed, they were too trivial to explain the severity, and intensity, and rapid progress of the constitutional reaction. Pus is found in the veins, the uterine tissue, the lymphatics, the peritoneum, the pleura, the pericardium, the articulations, the muscles, and the cellular, and even the epidemic tissue. M. Charrier describes one epidemic at the Hôpital Lariboisière, in which the first half were characterized by the peritoneal lesion, in the second half lesions of the pleura were the uniform rule, and it was rare that lesions were found of any of the organs specially associated with parturition. Each epidemic has its special characteristic as regards the topical lesions. M. Dubois observed one epidemic, in which all who died were found to have perforation of the intestines. M. Danyau, in another epidemic in 1829, found a constant alteration of the mucous membrane of the large intestine in its whole extent, the lesion being a solution of continuity, as if made by a punch. A careful study of the history of the numerous epidemics which have been described, proves that the variety of local lesions predominating in each is exceedingly great, while there has been sufficient uniformity in the symptoms, as a whole, to characterize it as being different manifestations of the same disease.

I now pass to a consideration of the therapeutics of this disease. This is the cardinal end of the study of all diseases. The discussion in the Academy of France has been utterly fruitless as regards this point, as they have added literally nothing to our knowledge of the proper mode of treating puerperal fever. In this respect I think it is not too much to say, that the discussion in this body contrasts most favorably with that of our foreign namesake. The heroic use of opium and its preparations, in that variety of puerperal fever characterized by the peritoneal lesion, first signalized by Dr. Clark, and the use of the veratrum viride as an arterial sedative, has—and will, I do not hesitate to say—diminished the fatality of this terrible disease by a marked per-centage.

Most of the French speakers distinctly avow their skepticism

as to the value of any treatment for the cure of puerperal fever. The exceptions are M. Depaul, who has found his most favorable results from the free use of mercurials; M. Velpeau, who has strong faith in the value of mercurial inunctions; and M. Beau, who is enthusiastic in his encomiums in regard to the value and importance of the sulphate of quinine in the treatment of this disease.

Now it seems to me that each school of the French—those who have advocated the essentiality of the disease, and those who consider the fever as symptomatic of local inflammation—have equally failed in their therapeutic efforts for obvious reasons. The first have apparently been seeking for some specific in puerperal fever, some antidote for the blood poison, which they would use in an analogous way with the use of the hydrated peroxide of iron in poisoning from arsenic, while the other school are vainly seeking some antiphlogistic course which will overwhelm the inflammatory action. Now there are no specific therapeutics for puerperal fever, any more than there are in yellow fever or in typhus fever. The type of the disease varies to an extraordinary degree in different epidemics. Sporadic cases require very different management from epidemic cases, and the constitution of different individuals attacked, and the tolerance of diseases, differs to a still more extraordinary extent. There is no disease which requires such acute discrimination in the adaptation of means to amend, none which requires a sounder judgment or more incessant watching to combat every assault which exhausts vital power.

On a former occasion, I very briefly alluded to the principal indications in the treatment of this disease. I propose now to examine more in detail the agencies we have the control of in fulfilling these indications. The first indication is to eliminate from the system as much of the morbid poison as possible, by means of depletion and the other evacuants, as purgatives, emetics, diuretics, etc. I said that unfortunately this indication, owing to the peculiar character of this disease, can rarely be fulfilled except to a limited degree. The effects of the poison are developed so rapidly, that the patient will not bear the use of such means, and it is the effects that we are obliged to combat. Within the past year, I have twice resorted to venesection in puerperal fever with most satisfactory results. Both patients were young and plethoric, and the toxæmic influence was strikingly evident in producing great cerebral disturbance. I bled for the same reason that I would bleed similar subjects in uræmic convulsion. I would here incidentally suggest the inquiry whether the type of disease is not again becoming more sthenic or whether there has not been epidemic tendency to cerebral congestion. Within the past twelve months I have bled thirteen pregnant or parturient women, more in the aggregate than I have bled for the seven years before. I may also add that I believe I have had authentic accounts of the death of twenty-one from this cause in the same period of time. I will add nothing to my former remarks in regard to venesection in puerperal fever.

Purgatives I have rarely used in this disease, for I have regarded tympanites as a contra-indication for their use, and in many cases there has

been a remarked tendency to diarrhœa, which sometimes has been difficult to control. In some few cases, where there was evident obstruction of the portal circulation, or there was reason to believe that there was intestinal irritation from previous constipation. I have given an active cathartic of calomel, rhubarb and nux vomica. In a latter stage of the disease also, when the patient has been supported by a liberal use of beef tea and alcoholic stimulants for some days, there sometimes comes a period when the digestive apparatus refuses to take up what is put in the stomach, a mercurial laxative has had a most happy effect in unloading the portal system, and relieving the congestion of the capillary circulation of the mucous membrane of the alimentary canal, and the patient at once is able to assimilate what is taken into the stomach.

Emetics were at one period regarded as a specific for puerperal fever, but now they are very rarely used. In three cases, I have decided on their use. The disease was ushered in by recurring chills, nausea and bilious vomiting, with a marked icterode hue of the skin and conjunctiva. The agent selected was the Turpeth mineral in five grain doses, which acts very promptly without producing prostration. But, on the contrary, in these cases they professed to feel less weakness after vomiting, and the symptoms which induced the selection of an emetic were at once relieved.

The second indication mentioned was to control the vital disturbances resulting from reaction. These are principally vascular excitement and nervous irritation. The value of veratrum viride in reducing vascular excitement has in this disease been confirmed by many observers in this city and my own additional experience. It will most surely reduce the quickened pulse of inflammation and irritation. Its use is not incompatible with that of stimulants. Experience has abundantly demonstrated the truth of this apparent paradox. One patient who recovered took, every hour for two days, one ounce of brandy and from three to ten drops of the tinc. veratrum viride, the quantity of the latter being determined by the frequency of the pulse, which was never allowed to rise above 80 per minute, although it sometimes fell down to 40. In another case the veratrum viride did not seem to produce any effect on the pulse, which remained steadily above 130, until the condition of the patient was such that I decided to give brandy. After the first ounce was given, it fell to 108; after the second, to 86. Continuing the brandy, the veratrum viride was suspended for a few hours, and the pulse again rose to 130. After this it was curious to note the fact, that if either agent was suspended the pulse would rapidly increase in frequency, while under the combined influence of the two it was kept below 80 per minute. I have little to add to what has already been said on the use of opium in puerperal fever. In all cases it should be given to the extent of entirely subduing the pain. When the peritoneal lesion predominates, it is the principal agent on which we must rely, and the quantity in which it is to be administered is only to be determined by the effect which it produces.

Third, to combat the local secondary lesions which may be developed.

This indication implies the use of a great variety of means, which will often tax the resources of the medical attendant to the utmost. I have already spoken of the value of opium in the peritoneal lesion. The tympanitic is often the most striking and distressing symptom, and I regret to say that I know of no treatment by which we can always be sure of relieving it. I rely, however, mostly on the use of turpentine, internally and endemically. In some cases I have seen good results from the use of the acetate of lead, and in others I have seen all means fail. In those cases where the secondary lesions are developed in the uterus, its veins, or its lymphatics, I have seen no advantage from leeching or blistering. The exposure of the abdomen to the air more than counterbalances the problematical advantages resulting from the former, while the latter only adds to the nervous irritation already existing. In these cases, the only local treatment I make use of is chlorinated vaginal injections repeated several times a day, and hot linseed meal poultices kept constantly applied over the hypogastrium.

Fourth, to sustain the vital powers of the system. I believe more patients die from the neglect of this point than from any other error of treatment in this disease. The patient is often sacrificed by a contest between the doctor and the disease, both contributing to exhaust the vital powers. In very many cases remedies are utterly powerless in combating the disease, and the province of the physician is to keep the patient alive until the disease is exhausted. This can only be done by proper nutrition, and the prevention of waste and the restoration of nerve power by the use of alcoholic stimulants. I will not enlarge upon this point ; but I still believe that when a patient with puerperal fever has lived for forty-eight hours, there is constant encouragement for effort, and that the danger is in a certain sense diminished in proportion to the duration of the disease. I will only allude to two points of practice which seem to me of some importance. The first I have already mentioned, the value of a mercurial laxative when the patient has been supported for some days by the liberal use of beef-tea and alcoholic stimulants until the stomach loses the power of taking care of what is put into it, apparently from obstruction of the portal circulation and congestion of the capillary circulation of the mucous membrane of the alimentary canal.

There is another class of cases where the stomach seems to give out all at once from another cause which I will not undertake to explain. Everything is rejected in a few minutes after it is swallowed, with a painful feeling of burning and excoriation. Now, if this condition is not changed the patient will soon die, as she can no longer be sustained. I have in several instances been able to persuade the stomach to resume its functions by adding to each tablespoonful of beef-tea one drop of nitro-muriatic acid, the proportion of the mixture being one part of the nitric and two of the hydrochloric acid.

## NEW YORK PATHOLOGICAL SOCIETY.

REGULAR MEETING, SEPT. 22, 1858. DR. ELISHA HARRIS, *Vice President.*

(*Reported for the* NEW YORK JOURNAL OF MEDICINE, *by* GEORGE F. SHRADY, M.D.)

*Anomalous disease of the knee joint.*—Dr. Markoe presented a specimen which had connected with it the following history:—C. T. L., aged 49, cashier, was admitted to the New York Hospital, Sept. 16, 1858. He is a spare, nervous, and rather delicate man, of tolerably regular habits, and has had in early life no severe or seated disease. No tubercles or gout in his family. About 10 years ago, had diarrhœa more or less for a year, and began about that time to have pains and stiffness in various parts of the body, increased in severity on the approach of stormy weather. At the same time he perceived a slight degree of paralysis both of motion and sensation in the lower extremities, so considerable that his legs dragged in walking, and he would frequently stumble and fall. Five years ago he had the little toe of right foot amputated, on account of caries following the too close paring of a corn. The partial hemiplegia and the wandering pains continued and slowly increased until about two years ago, when he was sensible of a decided improvement; and soon after, he observed some symptoms of urinary derangement—such as too frequent micturition, and occasional turbidity of the urine, and for a time a degree of incontinence, which obliged him to wear a bottle.

About the middle of December last, after fatigue and exposure during a storm, he had a rigor, followed by slight fever, and the swelling of the right knee joint. This was attended with but little tenderness, heat, or redness, but with a great deal of pain of an intermittent character.

It impeded the use of the joint so little that he was able, during the whole of it, to go about with a cane. Some œdema of the leg and foot accompanied the attack. After this period, he noticed that on motion of the joint, a grating, or, as he expressed it, a "munching" sound was produced, evidently by the rubbing together of altered synovial surfaces. On the 16th of January, as he was stepping from a stage, he felt a crack in the joint, as if something had given away, and immediately the limb became so useless that he had the greatest difficulty in reaching his home. In consequence of this accident, an attack of subacute inflammation of the parts again came on, and he was for a time confined to his bed. This attack soon subsided, leaving the limb free from pain, but still entirely useless for support or walking.

I first saw him, about two months ago, after the accident. The limb was then considerably emaciated, unduly movable and loose in the region of the knee. This region was irregularly enlarged, which increase in size was due as much to displacement and overlapping, as it were, of the articular extremities, as to enlargement of the bones themselves, which enlargement was evidently to be perceived, and was attended with irregularity of surface not unlike that which surrounds the joints in some cases of chronic rheumatic arthritis. The displacement was such that the end of the femur was thrown forwards and downwards

while the head of the tibia projected backwards and upwards. With this was associated a great degree of relaxation of the ligaments, such that the knee could be bent in almost every direction, and he himself could throw it about in a most extraordinary manner. There was no pain or tenderness of handling on motion. On feeling further, it was discovered that the inner condyle of the femur embracing a large piece of bone was detached from the shaft and movable upon it. On the outer and anterior aspect of the joint there is another but smaller piece which appears to be loose and to move independent of the shaft; there is no fluctuation or thickening of integument over the joint. The motions all give a rubbing or cracking sound, or rather sensation, but without pain. The whole limb, from the anterior superior spine to the malleolus, is one and three-fourths inches shortened, while the femur of the deceased side, measured from the trochanter to the outer condyle, is three-fourths of an inch longer than on the opposite side.

His general condition is good, pulse 75, tongue clean, digestive system in good order, urine natural, though at times turbid. Some occasional pains in the lumbar regions. The limb is so entirely useless, and he has received so little assistance from apparatus, that, at his earnest request, it was removed on the 20th of September.

*Examination.*—On opening the joint, a small quantity of dark, reddish, thin serum flowed out. The general surface of the synovial membrane was more vascular than usual, varying very much in different situations. The membrane itself was very much thickened and opaque, and of a dull yellowish color. In several points these patches of false membrane were attached more or less strongly to its surface. At other points there were great numbers of small villous-like projections from the surface, some of a large size, being single, others of a smaller size were seen in patches of varying shapes. The projections themselves mostly agreed in having a base, or neck of attachment, somewhat smaller than their free extremity, which gave them, when floated in water, a bulbous or pyriform appearance. Some of the larger appendices felt hard, as if containing the elements of cartilage, which indeed the microscope showed to exist in them, mingled with fibrous tissue. There were no loose bodies found in the joint.

The cartilages of incrustation partook of the dull, opaque, yellowish appearance of the synovial membrane, and were much thinner in many places than they should be. They were entirely absorbed in only two or three small patches, where the exposed bone seemed healthy.

The ligaments surrounding the joint were very much relaxed, though thickened, and in several points around the margin of the head of the tibia, bony masses had formed in their substance. One of these of considerable size, seemed in part to be developed in the substance of the semi-lunar inter-articular cartilage. The crucial ligaments were gone, and the place of their tibial insertion was occupied by a patch of small bulbous villosities. The greater part of the external and the whole of the internal semi-lunar cartilages were gone, only about one-third of the ring of the external remaining, which was not much altered from its usual appearance; but terminated abruptly both exteriorly

and posteriorly by being confounded in the thickened and villous fibrous folds of the synovial capsule. A separation by fracture was seen to exist of the internal condyle from the shaft. Of the femur, this fragment was displaced a little upwards, and remained connected to its neighboring bone by well organized fibrous bands, leaving a space between the femur and the fragment of condyle, into which the finger could readily be passed. This space seemed lined by a new synovial membrane. The laxity of the union permitted very free motion of the fragment, and accounted in a great measure for the looseness in the movements of the joint, and for his want of power to support himself on it. The bones were somewhat enlarged in the neighborhood of the joint, but appeared to be free from any morbid condition. The surface showed some exostotic irregularities, and the periosteum was thickened.

*Sacculated aneurism of the arch of the aorta, causing pressure upon the trachea just above its bifurcation.*—Dr. Buck presented this specimen for Dr. Bulkley, and gave the history as follows:—This specimen is from the body of a patient who was in the New York Hospital. He was a seafaring man, 44 years of age, of a well-developed, robust frame, and had generally enjoyed good health. He had suffered for a considerable time with dispnœa, which seized him in paroxysms. Just previous to admission, he was on his way to the Brooklyn Hospital, when he was seized with one of these paroxysms, and in a state of great distress he was conveyed to the New York Hospital by a policeman. I saw him once. I was sent for one day in haste, while I was making my visit, the doctor thinking he might require some surgical aid to relieve him. When I saw him, he was sitting up, laboring for want of breath, his face and hands were very livid, his countenance very anxious, his surface cold, and his pulse feeble and considerably accelerated. He did not say that he had any local pain, but seemed only to complain of great distress in breathing. I was struck with one feature of his case, and that was the sound condition of his voice, which was full-toned and strong. I inferred from that, that the dispnœa did not depend upon the presence of any laryngeal obstruction.

The question of aneurism at once came up, and I concluded from this same fact—the integrity of the voice during the paroxysm—that it was not aneurism. That was the conclusion I came to, based upon my own experience. I had seen several similar cases, but in all, during the paroxysms, the voice was reduced to a mere whisper.

The chest was resonant, though the respiration was very feeble. Here and there a little sibilant râle was present. This was the only time I saw the patient. The report of his case was, that these paroxysms recurred two or three or four times in the twenty-four hours, during the intervals of which he was pretty comfortable. He remained in the hospital from the 2d or 3d of August until the 20th of September. At one time he was so far improved that he seemed really to get better; his pulse, which ranged as high as 120, was reduced to 93. The medication consisted in the administration of tr. lobelia, tr. assafœtida, Hoffman's anodyne, and the inhalation of chloroform. Chloroform and Hoffman's anodyne seemed to afford him the greatest relief.

A few days preceding his death, he relapsed, paroxysms again becoming severe, and he died on the 20th of September. In the progress of his case, there was considerable cough and frothy mucous expectoration. At no time was there any hemorrhage.

This specimen shows an aneurism of the arch of the aorta developed on its posterior aspect. The three large arteries given off from the arch skirt the orifice of communication, which is large enough to admit the end of the forefinger. The encroachment upon the trachea is very nearly in the median line. The mucous membrane of the trachea is entire. The cartilaginous rings encroached upon do not show any alteration to exist. The aorta, on its inner surface, from its origin through almost the whole extent of its thoracic portion, is thickly coated with atheromatous deposits.

This case, in my experience, is peculiar in the feature I alluded to, viz., the undisturbed condition of the voice. This may be in consequence of the peculiar relation of the ascending recurrent nerve not yet being encroached upon in a way to interfere with its functions.

The explorations of the chest did not detect the existence of this aneurism, and in this respect it was not unlike some that had come to his knowledge. He referred to one case in particular, which occurred in the practice of the late Dr. Swett, where the voice was reduced to a whisper during the paroxysms, where there was every reason to suppose that an aneurism did exist, but the most careful and critical examination of the chest could not detect its existence.

*Aneurism of the Aorta.*—Dr. Krakowitzer exhibited another specimen of aneurism of the aorta, from a man between 40 and 50 years of age. He was healthy until seven years ago, when he had a pretty smart attack of rheumatism, which was not associated with much febrile action however. The attack was not even sufficiently severe to oblige him to keep his bed. The pains seemed to be confined to the lower extremities; generally, the joints not being involved. Since that time, he has been subject to wandering pains, complaining of symptoms which, in consideration of his previous habits, seemed to be owing to indigestion. He was addicted considerably to the use of intoxicating liquors.

It was not observed that his general health began to decline until about ten months ago, when he complained of getting out of breath easily, at the same time suffering from a pain in his chest and a short cough. He was a grocer, and followed his business until last spring, when he was forced to remain in doors. He continued about his store until two months ago, since which time he was confined to his bed. I examined him twice during the last fortnight of his illness. There seemed to be no marked difference in his physical symptoms each time he was examined, though the secondary symptoms varied considerably.

He was a man of medium stature and muscularity, his skin was quite pale, his face was considerably bloated and somewhat livid, and his eyes had a tendency to protrude from their sockets, with a dull, languid expression. He seemed to favor also a reclining position of the body, experiencing great discomfort in any position but this. When I ex-

amined him, I recognized a small pulsating tumor, about the size of a walnut, in the space between the second and third ribs, on the right of the sternum. The skin covering it had its normal condition. The tumor was elastic and could easily be diminished by pressure. The impulse over the heart was abnormally extended towards the left. The percussion was dull in a transverse diameter to the extent of four inches, and in a longitudinal diameter to the extent of three inches. The dullness extended to the right as far as the situation of the tumor and immediately around it. Everywhere else the percussion was normal, as was also the respiratory murmur.

On the second examination, I discovered slight râles at the top of each lung, and a small amount of bronchial respiration on the right side. The sounds of the heart were normal, and were not strong at the apex. At the base of the lung, along the course of the aorta, there was a blowing sound discovered, which could be heard over the manubrium sterni; which was synchronous with the pulsations of the right and left subclavian, right and left carotids, and femoral artery. The pulsations of the femoral were somewhat weaker than the carotid; the pulsation of the subclavian was strongest. His respiration was, of course, quick and labored. There was serous effusion in the abdomen, and some swelling around the ankles. The urine was not examined. The medication consisted in following out the indications given by the symptoms. He finally died from exhaustion and suffocation.

The post-mortem examination was made twenty hours after death. On removing the sternum at the place where the pulsating tumor could be seen and felt, it was found that an aneurism existed. This was adherent to the intercostal space between the second and third ribs, the muscular tissue at that spot being considerably thickened. The lungs were free from any organic disease except two small spots of tuberculous deposit in the apex of each. These organs (lungs) were filled throughout with a great quantity of serum. There was a little effusion in both pleural cavities.

The heart laid in a transverse position almost exactly in a horizontal line, the base being to the right, and apex to the left. It was hypertrophied to twice its ordinary size. This was mainly due to the hypertrophy and dilatation of the left ventricle, the right ventricle being very little affected. The mitral valve, with the exception of its being thickened at some parts of its margin, was normal and sufficient. Tricuspid was but little affected. The aorta at its origin, as is here seen, swells out into an immense sac which easily contains the two fists. Gradually tapering down until it becomes thoracic, then the artery resumes its natural calibre.

The origin of the innominata, left carotid and subclavian are distinctly seen. The origin of left subclavian seems somewhat enlarged, which accounts for the stronger impulse which it had. The inner coat of the aneurism presents the usual appearance. The aneurism must have existed a great while, considering its size.

There is a small amount of atheromatous deposit between the inner and middle coats of the artery. There can be seen a little sacculated

protrusion, corresponding in size and situation, of the tumor felt protruding between the second and third ribs. The abdominal organs were not examined.

REGULAR MEETING, OCTOBER 13, 1858.

*Brain and spinal cord in tetanus.*—Dr. James R. Wood presented the brain and portion of the spinal cord of a lad 15 years of age, who entered Bellevue Hospital on the Thursday previous. About seventeen days previous to his admission he injured the little and ring fingers of the left hand, rendering an operation necessary for their removal, which was accordingly done shortly afterwards. At the time he was received into the hospital he had the symptoms of tetanus. There was stiffness of the extensor muscles of the neck, more or less dysphagia; there was also a good deal of trismus, which was not so well marked as the other two symptoms. He was placed under treatment at once. The treatment was that pursued by some of our oldest and most experienced practitioners, opium and whisky. He took about 80 ounces of this liquor from the time he entered the hospital on Thursday until he died on Sunday evening. During all this time he was kept fully narcotized, having taken about a ʒj of morphine. The respiration at one time was down to eight per minute.

The symptoms improving on Saturday in a very remarkable degree, the opium and stimulus were diminished in quantity; so that the respirations at the time of his death were 28 per minute, and his pulse was quick, which showed that at that time he was not under the influence of opium. The spasms ceased on Saturday, as did all the other tetanic symptoms, and he seemed to die of pure exhaustion, comatose, without a rigid muscle and without a struggle. This case illustrates what has been frequently contended for here, that if a patient could be kept alive long enough to wear out the disease, at the same time being supported, he might in many cases be saved. If this boy had had enough vitality left after the disease had exhausted itself, he would in all probability have recovered. Such, however, was not the case.

Examining the specimen carefully in all parts before the society, he could not detect any trace of disease either in the brain or spinal cord. Every part seemed to be in a healthy condition, with the exception of a small quantity of coagulated blood outside the capsule of the cord, and also a little softening of the cord itself, which he thought was due to post-mortem changes.

He stated that many of the members had met cases where no post-mortem changes manifested themselves; still that was no reason to him why they should not continue their investigations until they should at length be rewarded with success.

Dr. Sewell asked, if death occurs from exhaustion, why was it that patients with traumatic tetanus almost invariably die, while those who were affected with idiopathic tetanus recovered?

Dr. Wood stated that such a fact was not the result of his experience. So far as he knew, idiopathic tetanus was as certain to wear out the patient as in the traumatic variety. The main difference consisted in

the violence and frequency of the attacks ; in traumatic tetanus the attacks were violent and long continued ; while in the other case, a succession of mild attacks was sufficient to wear out the patient. He referred to the case of a little boy, the subject of idiopathic tetanus, who was enabled to go to school, the attacks being so slight ; but notwithstanding this, the disease, by the constant succession of its attacks, wore him out in three or four weeks.

Dr. McCready remarked, that they generally died of apnœa.

Dr. Wood stated that this was the case. In this connection he referred to the fact that a great many cases of tetanus have been from time to time reported in the journals as having been cured. Most of these occurred in females, who, it is well known get up all sorts of troubles, which are liable to deceive the most careful observer. He knew now a young gentleman who reported eight such cases as having been cured by strychnine. Now, every one knows that this remedy has been tried for this affection with very unsatisfactory results. These cases, he thought, were doubtless some of the varied forms of hysteria. In conclusion, he asked Dr. Markoe how often he had met with idiopathic tetanus in the N. Y. Hospital.

Dr. Markoe stated that he did not recollect ever seeing a case.

Dr. Bibbins stated that he had seen three cases of tetanus ; two were traumatic, and the other was idiopathic. One of these occurred in a female, who died twelve hours after he first saw her. In that case he thought it was very difficult to decide whether it was a true case of tetanus or not, although the symptoms were exactly those he had observed in the traumatic variety. The only cause, in his opinion, that could have given rise to it was an ulcer of the ankle ; but he could, however, make out no satisfactory connection between them.

Dr. Harris thought it possible that the free use of those liquors which contained strychnine might give rise to this affection, the same as strychnine itself.

Dr. Markoe stated that he would not hesitate, in the case cited by Dr. Bibbins, to refer the cause to the ulcer. One of the worst cases of tetanus (traumatic) that he had ever seen was in a patient who had been severely burned in the foot by treading upon some limestone. Four weeks after tetanic symptoms came on and terminated fatally. He could call to mind several cases where tetanus had occurred without any recent injury. He had noticed that they very frequently came from burns.

Dr. McCready referred to a case of tetanus caused by the separation of a large slough at the back of the neck.

Dr. Gouley asked if any of the gentlemen had seen a case of *trismus neonatorum* ?

Dr. Henschell stated that he had seen several.

Dr. Gouley said that he had never heard of it in this city, but it was of very frequent occurrence in the States of Louisiana and Mississippi. He remarked that tetanus being so common on the east end of Long Island, some cases of trismus neonatorum might possibly be met with.

Dr. Markoe remarked that there was something very peculiar about the locality and liability to tetanus on the east end of Long Island. Horses died very frequently there of tetanus, and if any of the inhabitants are subjected to an injury of any kind, they move immediately away from the infected district, inasmuch as traumatic tetanus is very fatal in these parts.

Dr. Harris stated that traumatic tetanus prevailed to a very considerable extent on the eastern shore of Staten Island. He had seen three cases in that locality.

Dr. Markoe stated that in attending a patient with Dr. Knight of New Haven, he (Dr. K.) said that tetanus was much more frequent in that vicinity than it had been for ten years past, which fact made him very uneasy for the safety of his patients after an operation. It seemed in many respects to follow laws of endemic diseases in other localities.

Dr. Wood stated that it was a common practice on the east end of Long Island, when a horse run a nail in his foot, or injured himself in any way, particularly if it occurred in Suffolk County, to drive him into another district as soon as possible, so fearful were they of the consequences. In conclusion, he asked what proportion of the cases of traumatic cases recovered.

Dr. Markoe stated that some time ago he saw a tabulation of sixty cases, where ten recovered. He thought that result not far from the average, under ordinary circumstances; that was the proportion of recoveries that had come under his observation in the New York Hospital. He had seen three cases recover by the use of assafœtida.

Dr. Wood said that in his case injections of assafœtida were used in connection with the opium and whisky. He made use of it from the fact that the remedy had been so successful in the treatment of cases in the New York Hospital.

Dr. Clark stated that he had no experience in idiopathic tetanus; the physicians on the east end of Long Island had told him that it was quite a common affection, and that their success in the treatment of it far exceed any results in the traumatic variety.

Dr. Wood referred to some published cases occurring in the practice of one of his old pupils, who lived on the east end of Long Island, being cured by ice to the spine. He placed two pieces of folded blanket on either side of the spine and applied ice directly to the skin between the gutter that was formed. He treated a dozen cases in this way very successfully. These were principally idiopathic. He (Dr. Wood) stated that he treated three cases in this way, and gave the remedy a fair trial; but all the cases died.

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### NEW YORK HOSPITAL.

*Report on the Surgical Practice of the New York Hospital.* By GEORGE F. SHRADY, M.D.—Having read Dr. Suckley's interesting papers upon the hospitals of Paris, the idea suggested itself to me that perhaps some few remarks upon the practice of the New

York Hospital might not prove unacceptable to the profession at large. It is no part of my purpose to dwell upon the peculiar advantages of this institution, or even to allude in the most distant terms to its position as a school for surgery, but merely to present results in practice and conclusions arrived at in the experience of the different attending-surgeons. Though I am conscious of the difficulty of the undertaking, and am fearful that I cannot do it justice, still I hope that my endeavors may be rewarded with a certain degree of success.

*Ecraseur.*—So much is said now-a-days about the écraseur, it will perhaps not be inappropriate to commence with a short account of the use of this instrument.

There have been but two operations performed in this institution with this instrument—one was upon a case of hemorrhoids, and the other for amputation of the penis. It was first used in the case of hemorrhoids by Dr. Van Buren. The patient, a lady 49 years of age, had suffered more or less from this troublesome difficulty for a period of ten years, during the whole of which time she obtained very little relief from the palliative means usually made use of in such cases. On her admission to the hospital, October 12, 1857, she had four tumors around the verge of the anus; the two largest were about the size of a large hickory nut, and the other two as large as the end of the little finger. She being very desirous that something should be done for her permanent relief, an operation was determined upon, and performed with this instrument four days after admission. The two largest tumors were only removed by the écraseur, the other smaller ones being ligated in the usual way. The operation occupied about fifteen or twenty minutes, and but a small quantity of blood was lost. The parts healed kindly, the ligated portions separating in good time, and she left the hospital entirely cured on the 4th of November following.

The next case occurred in the service of Dr. Halsted; amputation of the penis for warty degeneration of the glans; suspected to be of a malignant character. The patient was 16 years of age, with a fair amount of bodily vigor. The diseased mass occupied the whole of the glans, spreading out into excrescences which were equal in size to a couple of English walnuts. The disease first made its appearance five months previous to admission, a short time after impure connection, and kept gradually increasing until it had attained the size already mentioned. Its growth was, without doubt, very much accelerated by the want of proper attention to cleanliness. Various means were resorted to while in the hospital to reduce the diseased mass, but with no good result attending; finally, a consultation of the attending-surgeons was held, and it was deemed expedient to amputate. This was accordingly done.

The operation, which occupied about twenty minutes, proved a very successful one as far as the amputation was concerned, but a considerable amount of hemorrhage followed from the open mouths of several vessels, one of which was the arteria dorsalis penis. The application of several ligatures was rendered necessary. The parts healed nicely, the process being much accelerated by the favorable shape of the stump

following the action of the instrument, the integument tending to turn inwards, leaving but a small extent of raw surface to heal by granulation. The meatus urinarius was kept pervious by the occasional introduction of an instrument, and before he left a large sized catheter could easily be passed. He was discharged cured a couple of weeks after amputation. No sloughing followed in either case. The instrument used in both cases was *Chassaignac's*, manufactured by *Leur of Paris.*

The last case tends very decidedly to disprove one of the advantages claimed for the écraseur, viz., arrest of hemorrhage. A considerable amount of blood was lost, notwithstanding due deliberation was employed in the lacerating process.

This fact is also illustrated by a case that occurred in the practice of Dr. Van Buren, at the St. Vincent's Hospital, after amputation of the cervix uteri by means of this instrument, in which thirty-five minutes were employed in the operation. An artery required the ligature in consequence of its continuing to give forth blood.

I have learned that Dr. Isaacs, of Brooklyn, performed subsequently a similar operation upon the cervix uteri with a good result.

The surgeons generally look upon this instrument as useful in cases where amputation has to be resorted to upon parts which are not easily accessible to other instruments, and where, under ordinary circumstances, profuse hemorrhage is expected. They, in common with every one who can amputate with dexterity and neatness, by no means sanction the use made of it by some of the French surgeons of the present day; for instance, as an instrument for amputation of the limbs. With all the advantages claimed for it in such cases, they are by no means sufficient to tempt the operator to throw aside his catlin and resort to a practice which, at the best, is a very barbarous one.

*Amputation of limbs.*—Amputations in this institution are of frequent occurrence, inasmuch as the class of cases which are admitted that require such operations are very numerous.

The circular method is the one most commonly employed, after the method usually attributed to Alanson, but really due to Louis, who practised nearly a half a century before him. It consists in forming a cone-like cavity for the stump. The flap is composed partly of integument and partly of obliquely-divided muscles, being made by directing the cutting edge of the knife upwards. This mode of operating has been employed for a number of years by Dr. John Watson, who is a strong advocate for its use, as are also Drs. Markoe and Van Buren, and I believe their views are supported by the other attending surgeons. This method refers to amputation of all the limbs.

This operation, although not elegant in its appearance, leaves the stump in a very favorable condition for healing.

Formerly, the flap operation was very much in vogue, and at one time was employed almost entirely. Dr. Valentine Mott first introduced this practice into the hospital, and is still a strong advocate of its applicability. This method is now almost entirely abandoned, principally for two reasons. In the first place, there is a larger surface exposed for granulation than is the case after a circular operation, and conse-

quently the healing of the stump is proportionately retarded. In the second place, more of the limb has to be sacrificed, the bone being clipped off shorter than in the circular method, in order that the flaps may be sufficiently enlarged.

It seems also, in regard to flap operations, that they are more suitable for cases in which union by the first intention can be counted upon; but in large hospitals such stumps, in a great majority of cases, heal by granulation, and hence they heal less rapidly and favorably than in the circular stumps.

I have seen but one stump heal by first intention. This occurred in the service of Dr. Halsted, in the person of a boy about thirteen years of age, where amputation was resorted to in consequence of disease of the knee joint. The circular method was used. This result is of rather infrequent occurrence in the hospital, but when it does take place, the amputations are secondary, performed in consequence of disease, and in young subjects. On the contrary, primary operations in adults very rarely, if ever, are united by first intention.

It has been stated by the surgeons that primary union, after flap operations, in the hospital was, for some unexplained reason, of more frequent occurrence a number of years ago than at present. Doubtless this is the reason why the flap operations have in some degree lost favor.

The surgeons have lately used a method of operating upon the leg which proves very satisfactory, by making two semicircular flaps of integument, commencing the incisions in front, and terminating them behind, so that the line of meeting of the flaps shall be vertical, as the limb lies on the bed. The flaps being cut but not raised from the subjacent tissues, the integument above the incisions is strongly drawn up by an assistant, and the muscles are excised by successive touches in the same manner as in the ordinary circular operation. This makes an admirable stump, and avoids the unseemly prominence always seen when the skin is brought together after the circular method. The projecting end of the tibia is carefully bevelled off, in order that no undue pressure be made upon the skin of the stump. More recently this method of incision, which appears to combine the advantages of the flap and the circular operation, has been applied to amputations of the thigh, by Dr. Markoe, and has proved in every way satisfactory.

There is a tendency among the surgeons of the hospital to close the stumps very lightly after an amputation, so as to court union by granulation rather than by first intention, experience having shown that with light open dressings the results are more apt to be favorable. On the contrary, the heavy dressings, such as compresses, bandages, and the like, necessary to procure union by first intention, far from producing the result required, tend to retain the pus which is almost certain to form, thus giving rise to abscesses, burrowing, and the like, which make the process of cure very tedious.

In the treatment of these stumps, great attention is given to cleanliness and position. The applications are removed at least once a day, and oftener if necessary, depending in a great measure upon the quan-

tity and character of the discharge. The dressings for the most part consist of patent (picked) lint, and an ointment composed of one part of balsam Peru, and seven of yellow cerate. This ointment is used almost altogether, it having been found by long experience to answer an excellent purpose, in hastening the healing process, by the moderate stimulation it gives to the granulations, which are so apt in large hospitals to assume an indolent character. Sometimes, though very rarely, all that is required is the application of simple cerate. These dressings are kept applied by a light bandage.

This, then, is the dressing usually employed in an ordinary case; there are, of course, now and then, individual instances which present themselves, where it is necessary to modify this course of treatment according to the peculiar indications that present themselves; with these facts every one is so well acquainted that any further allusion to them appears unnecessary.

When the tissues at the extremity of the stump are disposed to hang in a flabby and irregular mass, as is very frequently the case, especially after sloughing has occurred, the parts are supported, the edges of the granulating surface are approximated, and the whole moulded into shape by the proper application of wide strips of adhesive plaster. These are placed sufficiently wide apart to allow the free exit of matter. By these means alone, a stump, which, in the early part of the treatment, presented an unsightly appearance, is made, if not as decent looking, at least as useful as if nothing of the kind happened. I am not aware that this practice is peculiar to this hospital, still it deserves its share of notice in connection with the treatment of stumps.

Dr. Markoe has recently amputated four times, consisting of one amputation of the thigh, two of the forearm, and one of the leg.

The amputation of the thigh, performed September 20, was for an anomalous disease of the right knee. The particulars of the case are given in the minutes of the New York Pathological Society, for September the 22d. (See page 387.) The lateral flap operation was resorted to in this case, and will, to all appearances, make a very pretty and useful stump. The patient is improving, and the parts have now nearly entirely healed over.

The amputations of the forearm were both performed on the right side, in consequence of the existence of compound fractures. In one of these cases, the injury was the result of a severe gun-shot wound of the wrist and hand. The patient died a week after the amputation, of pyæmia. The other was a railroad accident; the patient still remains in the house doing well, the stump healing nicely. Both these operations were circular, and performed at about the junction of the middle and lower thirds.

The leg amputated was also the seat of a compound fracture. In this case the fibula of each leg was broken, the fracture in the right being compound, and low down, involved the ankle joint, rendering secondary amputation imperative. The lateral flap method was also used in this case, and a very handsome stump was left, but the patient,

being a man of very intemperate habits, sunk, and died on the second day after the operation from prostration.

*Amputation at the left shoulder joint.*—Dr. Buck performed this amputation last month. The operation was rendered necessary by the occurrence of a very extensive compound fracture of the forearm and arm. The laceration of the soft parts, which was very extensive, reached as high as the axilla, and for a short distance underneath the pectoral of the injured side. The patient was considerably prostrated on admission, and as soon as a proper amount of reaction came on, the amputation as above was resorted to. The oval method of the French was used, by making two vertical semicircular flaps on either side of the shoulder, meeting above on the acromion, and underneath in the axilla. The edges of the wound were brought together with sutures, adhesive straps, and a compress and bandage over the whole. The patient died on the second day after the amputation from imperfect reaction.

*Exsection of the head of the femur in hip-joint disease.*—This is the first operation of its kind that has been performed in this institution. The patient was a young boy about eleven years of age, who had been in the hospital with an affection of the right hip since the 27th of March last. He had been treated with the straight splint, for a considerable time after his admission, with very little benefit. An abscess formed about three months ago, and opened itself about the middle of the anterior aspect of the thigh, from the effects of which he lost ground pretty rapidly, and became reduced to such a state that the operation was proposed by Dr. Markoe, as offering the only chance to save his life. It was performed on the 27th day of September.

A longitudinal incision was made along the hip, about six or seven inches in length, having its centre over the trochanter major, from which point an incision, three or four inches long, was made, at right angles with the former, across the glutial region. The flaps were dissected up from the bone, when the abscess, as had been supposed, was found to communicate with, and involve the joint. The capsule of the joint also had participated very much in the diseased action. The head of the femur was dislocated forward by forcible rotation and abduction, and separated by the chain-saw at a point corresponding to the insertion of the capsular ligament, in the direction of the horizontal axis of the body. A small portion of the floor of the acetabulum had separated itself, and was removed. The head of the bone was much atrophied, and the cancellar structure was filled with pus-globules. The cartilage of incrustation was destroyed, which was also the case with the cavity of the acetabulum, which was carious over its whole surface. This was all removed by the gouge. All below the section in the femur seemed to be healthy bone structure. So far, the operation has proved a very successful and satisfactory one. The patient has been steadily improving ever since, and at the end of a month after the operation promises to recover.

Dr. Markoe, at some future time, intends to publish the case in full, and present it in its proper bearings, when the result is more certainly known.

## LONG ISLAND COLLEGE HOSPITAL.

(*Report* by JOHN G. JOHNSON, M.D., Adjunct Surgeon.)

*Case* 1.—*Deformity of mouth from gangrene, and necrosis of inferior maxilla—the result of mercurial action.* Under Drs. DANIEL AYRES and WHALEY.—A young man aged 23, presented himself at the Hospital with the following history. At the age of three years he suffered from a severe attack of dysentery, during the treatment of which he became profusely salivated. A gangrenous spot showed itself just beyond the left angle of the mouth, which continued to spread until it had penetrated the orbicularis oris, and involved a considerable portion of the cheek. The teeth, together with the alveolar process, and a considerable portion of the body of the inferior maxilla, gradually exfoliated. The parts ultimately healed. The left angle of the upper lip being firmly attached to the body of the lower jaw, whilst the remaining portion of the lower lip upon the right side was connected with the left side of the face by a thin and hard cicatrix. He was unable to close the mouth, or to retain his saliva, and took his food with difficulty. The large chasm thus exposed was occupied by the tongue, which was thrust out like the tongue of a dog. He was unable to articulate, and carried on conversation by signs and noises which his friends had learned to interpret.

He states, that ten years previous a surgical operation had been performed with a view to relieve the deformity, but without success. This horrible deformity had excluded him from society and from occupation, rendering him a disgusting object even to his nearest friends.

*Operation.*—An incision was commenced above the left angle of the mouth, and carried upwards and outwards toward the left ear, the distance of three-quarters of an inch; from this point a curved incision was carried perpendicularly downwards beneath the chin to a point corresponding with the right angle of the mouth. Another incision was commenced upon the lower lip about half an inch from its median line, and carried downwards to join the former incision beneath the chin. The whole lower lip was then dissected off from the body of the bone. The cicatrix remaining attached to the bone, forming a curvilinear triangle, was split from below upwards, turning the integumentary surface towards the mouth, with a view of forming a supporting background upon which to plant the lower lip, and likewise to prevent fluids from gravitating into the line of union. A ligature was therefore passed through its upper angle and brought out over the lower lip. The large flap from the chin was now slit up, and united by points of suture to the angle of the upper lip, and to the cheek, which had previously been freely separated from the ramus of the jaw, to which it was firmly bound by false adhesions. The whole was additionally secured by straps and a retentive bandage carried over the head. Strict quietude was enjoined, and all food, which consisted of milk and soups, to be taken through a glass tube.

On the sixth day the sutures were removed, entire union had taken place over the whole wound, leaving only a small fistulous opening the

size of a knitting needle, through which the saliva passed from the mouth on attempting to move the jaws. At the end of the two weeks this point, continuing open, was deeply touched with a stick of solid nitrate of silver, and hermetically covered with charpie soaked in collodion. Four weeks from the operation this dressing was removed and the opening was found closed. The restoration of the functions of the mouth was thus complete and his appearance much improved. His speech, which of course required education, has since been entirely restored.

*Case* 2.—*Neuroma following amputation—Resection.*—Under Drs. Bauer and Johnson.—Theresa Simmons, aged 29, a healthy Irish woman, caught her right hand and forearm in the machinery of the cotton factory, on the corner of William and Van Brunt Sts., on the 12th of July, 1855. Immediate amputation was performed, four and a half inches below the elbow. The patient states that as the wound commenced to cicatrize, neuralgic pains were so intense as to frequently deprive her of sleep. The pain increased in severity till, on the 12th of July, 1858, she presented herself at the clinic of the Long Island College Hospital. The general appearance of the patient was that of great prostration, very much emaciated and dyspeptic. She stated that her sufferings were so great that she was willing to submit to any treatment that would relieve the pain. The ends of the bone were barely covered by the firmly adhering integuments, and on slight pressure on the anterior portion of the stump, the most violent twitching and intense pain were produced; even the friction of her dress over the surface was intolerable. The stump was in a state of constant uncontrollable motion. The diagnosis was neuroma, and reamputation was advised. She was admitted to the Hospital, and the operation was performed by Dr. Bauer.

A careful dissection of the stump, made by Dr. Johnson, exhibited three large neuroma; one of the radial nerve, one of the ulnar nerve, as large as an ordinary filbert, and one of the median nerve. All were situated between the ends of the bone and the cicatrix. The ends of the nerve were so firmly incorporated with the cicatrix that dissection was impossible. The neuromata seemed to have been produced by the compression of the cicatrix. The wound healed by first intention, and the patient was discharged from the Hospital. August 31st, she presented herself at the Hospital complaining of slight neuralgic pain in the stump, when a small portion of the ulnar nerve just above the elbow was excised, since which time she has improved in her general health, is entirely free from pain in the stump, and is attending to her ordinary occupation.

*Case* 3.—*Cystitis—Abscess opening into urethra—Bright's disease—Dyentery—Autopsy.*—Under Drs. Chapman and G. D. Ayres.—This patient was an Englishman, aged 78; fifty years ago he had urethritis for the first time, since then he has had several attacks. He had had hydrocele three times. Six years ago he had so severe a stricture that he entered the Massachusetts General Hospital for treatment. Since then

he has been in the constant habit of drawing off his water by catheter, being unable to urinate without. He entered the Long Island College Hospital for retention of urine, having been unable to introduce even a flexible catheter; in his attempts he had caused copious hemorrhage: for four weeks he had been unable to pass an instrument.

When admitted, he was able to pass only a small quantity of urine at a time, and that with great difficulty, with a constant desire to urinate; the urine having a strong ammoniacal smell. He had anorexia, a coated tongue, and costive bowels—great tenderness over the bladder, so that he was unable to sleep. A No. 7 catheter was passed without much difficulty or pain. As soon, however, as the bladder was relieved of its contents, bringing its coats into contact with the instrument, the sudden contraction produced a sensible blow, which was conveyed to the hand through the instrument, and attended with excruciating pain. His urine was of the specific gravity of 1.010, not coagulable with heat or nitric acid; pus was found by the microscope, and small dark clots were brought away from time to time by the catheter. His urine was frequently drawn by the catheter and chalybeates administered. He remained in much the same condition till some seven days before his death, when he had an attack of dysentery, tenesmus, frequent desire for alvine evacuations, which were at first bloody and mucous; after two or three days they were decidedly purulent in their character, and before his death contained nothing but sanies without feculent matter.—He died Sept. 28, from exhaustion.

*Sectio cadaveris.*—The whole rectum and ascending colon were softened and ulcerated. The kidneys were affected with the second stage of Bright's disease, granular and fatty—the capsule easily peeling off; an abscess had formed around the prostate in the cellular tissue, which had been discharging through the urethra antecedent to his admission, as the pyogenic membrane lining the abscess was well formed.

*Case 4.—Enteritis—profuse hemorrhage, Autopsy.*—Under Drs. Chapman and Davol.—Caroline Schwaller, 25 years of age, born in Germany; she had been under treatment for three weeks previous to her admission to the hospital, for diarrhœa; when admitted there was no fever, her skin was dry; the tongue was coated and moist; pulse feeble; abdomen soft, neither hot, tympanitic, or resilient on pressure; slight tenderness on pressure in the right iliac fossa. She passed blood in her stools on the day of admission, for the first time.

The alvine evacuations were very frequent. She was ordered R. pulv. Doveri, grs. xii.; hydrag. submur. grs. xv., div. in chart. iii., one to be taken every three hours, to be followed by oleum ricini ℥i. Bilious evacuations followed, and the next day she was ordered pulv. Doveri every three hours, with enema of plumbi acet. et. tr. opii. Under this treatment her condition seemed markedly improved. The dejections were free from blood, infrequent and bilious. On the second night after her admission she had a profuse hemorrhage from the bowels, amounting to ℥xl. On the next morning she was in a profound collapse, from which she did not entirely recover for twenty-four hours. She was kept on beef tea and brandy, which was continued during the day; under this

treatment she rallied, the extremities became warm, and her general condition improved. On the fourth day from her admission there was a recurrence of the hemorrhage, to the amount of ℥xii. Two days later there was another sudden, copious, and involuntary discharge of blood, from which she died the following morning.

*Sectio cadaveris.*—The mucous membrane of the large intestine was thickened and inflamed, in many places giving way under slight pressure. There was ulceration of the rectum, colon, cœcum, and 14 inches of the lower portion of the ileum. The ulcers were deep, many on the point of perforating the peritoneum ; several were perforated by the weight of the fæcal matter in removing. The meso-colon was extremely vascular, and the vessels could be easily traced to the deep ulcerations. The hemorrhage, which was the immediate cause of death, had been produced by the ulcerating through of these vessels, and the blood thus escaping into the intestines.

*Case* 5.—*Calculus of the kidney—Fatty degeneration of the brain—Autopsy*—Under Drs. CHAPMAN and DAVOL.—Richard Smith, American, 40 years of age, was admitted to the Hospital, May 31st ; four weeks prior to his admission he had been seen by his physician, and complained of indistinctness of vision. The next time he was seen he had spasmodic twitchings of his right arm, ulcerated sore throat, and a coated tongue ; a few days after this he lost the power of speech, and was admitted to the Hospital. He had been a very temperate man, but during the past winter, had been obliged to live on scanty diet, chiefly bread and a little weak tea. When admitted he was unable to speak, could not protrude his tongue. One curious symptom was noticed, by pressing on the inferior maxillæ, there were choreal twitchings of the right arm, which could not be produced by pressure upon any other portion of the body. His breathing was rapid and bronchial ; his urine was nearly normal in amount, light colored, and of the specific gravity of 1.014. Abundance of albumen was shown by heat, nitric acid, and the microscope. Beef tea and brandy were ordered; he had great difficulty in swallowing, sank rapidly, and died four days after admission.

*Sectio cadaveris* eleven hours after death. The upper portion of both lungs was studded with tubercles. The cerebellum was softened, and examined by the microscope, showed fatty degeneration. The heart and liver were healthy. The right kidney was three times the normal size; the whole upper portion of it was changed into fatty tissue ; the pelvic portion of the remainder was occupied by a large mass of fat, immediately beneath the lining membrane of the pelvis of the kidney. This membrane was greatly thickened, and in many points red and mammillated. The cortical structure of the kidney, involving its superior half, was entirely obliterated, together with the infundibula, forming a sacculated condition of the whole organ. This sac was occupied by an irregular calculus, the body of which was two inches in length, by one inch in breadth, surrounded by pedunculated masses taking the form of the distended calyces which they occupied at the lower portion of the kidney; cortical portion of the kidney was still in a condition to secrete urine.

## PART SECOND.

# CRITICAL ANALYSIS.

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ART. IX.—*A Manual of Psychological Medicine; containing the History, Nosology, Description, Statistics, Diagnosis, Pathology and Treatment of Insanity. With an Appendix of Cases.* By JOHN CHARLES BUCKNILL, M.D., London; Licentiate of the Royal College of Physicians; Medical Superintendent of the Devon County Lunatic Asylum, etc., etc.; and by DANIEL H. TUKE, M.D., Licentiate of the Royal College of Physicians, London; Lecturer on Psychological Medicine at the York School of Medicine; and Visiting Medical Officer to the York Retreat. Philadelphia: Blanchard and Lea, 1858.

*A Concise History of the Entire Abolition of Mechanical Restraint in the Treatment of the Insane; and of the Introduction, Success, and final Triumph of the Non-Restraint System.* By ROBERT GARDINER HILL, F.S.A., Member of the Royal College of Surgeons, England; late one of the Visitors of the Lincolnshire County Lunatic Asylum; and formerly Resident Medical Superintendent of the Lincoln Lunatic Asylum. London: 1857.

*Unsoundness of Mind in Relation to Criminal Acts. An Essay to which the First Sugden Prize was awarded by the King and Queen's College of Physicians in Ireland.* By JOHN CHARLES BUCKNILL, M.D., London, etc., etc. Second edition. London: 1857.

SPECIAL as the subjects of psycho-pathology and psychiatrics have become, they can never altogether lose their interest for the general medical practitioner. The recognition of the fact that mental disorders depend for their existence upon cerebral disease, sustains their inclusion within the broad domain of pathology; while their influence upon the higher relations of the individual also brings them necessarily under the notice of metaphysical, forensic and legislative science.

The study of insanity, with rational views, dates only from the latter part of the last century. It need not surprise us, therefore, that, although numerous treatises and fragments, by able authorities, have from time to time appeared, no sufficiently systematic text-book has existed, until now, embodying all the advances that have been made. The authors of the work first named above, observe, therefore, with

reason, that they have long felt the want of a treatise on insanity adapted to the use of students and practitioners.

The facts and reasonings most important to the understanding of the subject, in its present aspects, have lain scattered in various monographs, reports, and reviews, and in journals especially devoted to psychological medicine. So much was this the case, that we had accumulated more than a score of the principal recent contributions upon it, for collective comparison; the special analysis of which has been rendered unnecessary, by the reception of the Manual of Drs. Bucknill and Tuke. Our task, and that of all students of insanity, is thus made a comparatively easy one.

We need have no hesitation in saying, that the work just alluded to is one of excellent character, and adapted to fill a very important place.

Dr. Bucknill is already well known as the author of many valuable essays and papers upon topics connected with insanity; being, in fact, among its foremost investigators at the present time. Dr. Tuke has also, besides his own reputation as a writer and teacher, the prestige of a connection with an institution, founded by one of his own name, which held a most important position in the early reforms in the management of lunacy.

The earlier chapters of the Manual, on the History, Nosology, Description and Statistics of Insanity, are from the pen of Dr. Tuke. The remainder of the work, treating of Diagnosis, Pathology and Treatment, with an Appendix of Cases, is by Dr. Bucknill.

The first chapter sketches the history of insanity as known among the ancients: considering the influence of the civilization of the Egyptians, Greeks, and Romans, upon the amount of mental disease among them. The second refers to the opinions of ancient medical writers upon the treatment of the insane. Both contain matter of much interest. There appears to be no authority for the genuineness of the treatise upon insanity published with the works of Hippocrates. Asclepiades was definite in his directions for the treatment of the insane. He prescribed music, considered bleeding murderous, and referred, though without confidence, to the earlier use of narcotic fomentations. He was also, according to Feuchtersleben, an opponent of the use of bodily restraint, except in the most dangerous cases. The treatment of Celsus for alienation was characterized by harshness. In advance of others, however, upon one point, he advocated a full diet in some at least of the mental affections, connected with insomnia. Cœlius Aurelianus, in cases of violence, instead of padding the room, padded his patient, with soft wool. Dr. Tuke regards him as a better authority upon the treatment of insanity than Galen.

The third chapter takes up the interesting question, of the bearing of modern civilization upon insanity. This inquiry is beset with difficulties, and has been very illogically dealt with by many writers; especially as regards the proportion of the insane to population.

In England and Wales, statistics upon record prove that there is, at the present time, one insane person (or idiot) to 577: being, among

males, one to 616, and among females, one in 543. Adding, however, an estimate of the insane not reported to the Lunacy and Poor Law Commissioners, Dr. Tuke does not doubt that the true proportion should be one insane (or idiotic) person to every 300 of the population. The ascertained number in Scotland in 1857 was one in 390 ; subject to a probable addition similar to the above. In Massachusetts, in 1850, there was one lunatic in every 427, and one idiot in every 1,034; of both, one in every 302.

To compare the present extent of insanity, as indicated by these statistics, with its extent a century ago, Dr. Tuke considers a vain attempt.

His opinion, however, is decided, that the liability to mental disease is greater (other things being equal) in a civilized and thinking people, than in any race whose intellectual faculties are but little called into action.

"Civilization, with its attendant knowledge and education, creates social conditions, and offers prizes dependent solely upon intense intellectual competition, unparalleled in any former age, and of course unknown among barbarous nations, which of necessity involve *risks* (to use no stronger term) which otherwise would not have existed."

"Dr. Guislain observes, that the people of European and North American civilization are, as it were, in a state of continual intoxication—intoxication of the emotions—intoxication of personal dignity—intoxication arising from constantly renewed impressions. It is not thus with those nations which most closely approach a state of nature ; men who live far from the tumults of what we call the world."

Notice is taken of the assertion made by Sir Andrew Halliday that there is a larger number of pauper lunatics in the agricultural than in the manufacturing counties of England.* Dr. Tuke does not consider that even the admission of this statement should warrant the inference drawn, that it opposes the view that civilization favors the prevalence of insanity. But he goes farther, and boldly denies the *fact :* showing the error in which the supposition has originated. Instead of taking the proportion of pauper lunatics to the pauper population in the respective counties, an estimate was made of the proportion of pauper lunatics to the total population of the county ; and moreover, no attention was paid to the comparative mortality of the respective districts. Several writers on the continent of Europe state that their statistics exhibit a larger number of lunatics in cities than in rural districts. Finally, however, Dr. Tuke concludes, that

"Inasmuch as all civilization is, up to the present time, to be regarded as imperfect and transitionary, it does not necessarily follow, from the foregoing, that civilization, carried out to its perfect development, a civilization which should exactly temper the force of the emotions, moderate intellectual exertion, and banish intemperance, it does not follow, perhaps, that such a civilization as this, would generate mental disease. Even such a condition of society as this, however,

* Halliday ascribes this in part to the women laboring in the field during pregnancy.

(which, it is to be feared, will never be realized,) would, we believe, present greater danger to the integrity of the great centre of the nervous system than a state of barbarism."

We have, in the fourth chapter, a history of the amelioration of the condition of the insane in modern times, especially in regard to mechanical restraint. This is well written and full; although mention might have been made, also, of the labors of Tenon, Daquin, Chiarugi, and Veitch, who are not named. We miss, too, with regret, the account, in detail,* of the memorable inauguration of Pinel's enterprise by the liberation of fifty-three patients in the Bicêtre, in 1792; omitted from want of space. Ampler justice, however, is done, than in the work of Gardiner Hill, to the contemporaneous reform originated, independently, by the Society of Friends, in the York Retreat: a reform the more important because, as Dr. Conolly observes, before that period, "among the bad, the York Asylum was the worst." It is singular, indeed, that more than twenty years should still have elapsed, before, upon the publication of an account of the Retreat, by Samuel Tuke, in 1813, any considerable progress was made in other institutions in Great Britain in improving the treatment of the insane. Until 1814, the York Asylum itself still continued to be the scene of the worst abuses. At Bethlem, also, to as late a period, lunatics were treated like wild beasts; nor was it much better in other places.

The next era in this eventful history, was that of the experiment, in Lincoln Asylum, from 1829 to 1838, of the abolition of mechanical restraint in the treatment of lunacy. It is to this subject, especially, that the work of Mr. Hill is devoted, which is named at the head of this article. Controversy had existed in regard to the justice of the claim made by Mr. Hill and his friends, and put forth in the form of a public testimonial, to the origination of the idea, and actual experiment, of *total* abolition of mechanical restraint. It is placed beyond doubt that, when conceived by him, this idea met with general opposition, and with distrust even from those apparently best qualified to judge of its merits. In S. Tuke's account of the Retreat, for example, it had been observed, that "we cannot anticipate that the most enlightened and ingenious humanity will ever be able entirely to supersede the necessity of personal restraint." A judicious use of this had been, indeed, in the experience of the Retreat, of service; leading its officers to the conclusion, that, from the association of mental with bodily action, "such a degree of restraint as would not be materially painful, in a state of calmness, has a tendency to abate the paroxysm."

Dr. Charlesworth, attending physician to the Lincoln Asylum, while earnestly striving for many years to mitigate the severity and frequency of restraint, did not suppose it possible altogether to abrogate it, as was shown by his exercising much ingenuity in contriving "quarter-boots," "buckskin and round-cornered buckles," etc., for the purpose. Dr. Charlesworth himself acknowledged this, expressly, in a speech before the Provincial Medical Surgical Association, in these words:

* Quoted in Mr. Hill's work, from the Brit. and For. Med. Review, No. I. p. 286.

"The real honor of first introducing the system" of total non-restraint "is due to Mr. Hill."

The latter proceeded at once upon the principle, that "moral treatment, with a view to induce habits of self-control, is all and everything." Satisfied that "with window-guards, windows were broken; with fire-guards, patients were burned to death; and with strait-waistcoats and other instruments, patients were hanged, strangled, and murdered," he undertook the complete substitution for all of these, of *watchfulness*. The success of the experiment commended it, though only by degrees, and with the aid of long perseverance, to the governors of Lincoln Asylum, and to the commissioners in lunacy, as well as to medical officers of other institutions. Dr. Charlesworth at once gave it his hearty and most important coöperation—"To his steady support, under many difficulties," says Mr. Hill, "I owe chiefly the success which has attended my plans and labors. He originated, besides other assistance, the requisite alterations and adaptations in the building."

The perusal of Mr. Hill's volume, therefore, enables us to justify the opinion of Dr. Tuke, that it is due to him to admit, that he was the first to assert, and to carry into practice, the principle of the entire abolition of mechanical restraint. It is probable, however, as Dr. Tuke adds, "that, had not the experiment been carried out on a much larger scale at Hanwell by Dr. Conolly, with far greater success, a reaction would have ensued, of infinite injury to the insane." To Dr. Conolly, therefore, appears especially to belong the merit, with the opportunity, of bringing the non-restraint system into its present position of general recognition and importance, particularly in England and Wales. It is said by a writer in the *Brit. and For. Medico-Chirurgical Review*, that there are now about 14,000 lunatics under treatment in the large English county asylums, and that there is less hardship or severity towards any of these than is practised towards the scholars in the public schools: it being pretty certain that a straight-jacket could not be found in any of those institutions.

In Ireland and Scotland, the same writer states that some form of restraint is yet employed, although not frequently, in most of the asylums. In France, says Mr. Hill, "the old system is still adhered to. At this time, the French 'Aliénistes' cry down non-restraint, as the English physicians used to do in the earlier years of their existence." In Germany also, mechanical restraint is still extensively in use. Nor has it been absolutely abandoned in America. Tranquillizing chairs, muffs, belts, etc., are yet to be found, although rarely used, in our asylums. The following is from the *American Journal of Insanity*:*

"The sentiments of American psychologists at the present day may be found in the report of the tenth meeting of the Medical Superintendents of American Institutions for the Insane, published in the *Journal of Insanity* for July, 1855. In a discussion following the reading of the paper upon the Non-restraint System, the conclusions of the

* Jan. 1857.

writer, unfavorable to the abolition of restraints, were concurred in by all the members present."

At a later meeting of the same association, Dr. Tyler, of New Hampshire, read a paper on the Care of the Violent Insane. A discussion ensued in regard to the kind and amount of personal restraint most suitable for their treatment: a *minimum* was favored by all.

Dr. Bucknill, in the *Asylum Journal*, writes thus:

"Patients are also met with, who, with the free use of their limbs, and under the most gentle and patient treatment, are incorrigibly suicidal, or intractably malignant in character and conduct. The history of the non-restraint system under such circumstances, is a chapter which Dr. Conolly has not yet written."

Drs. Butler and Jarvis, in communications reported in the *American Journal of Insanity*, relate cases of persons subject to insane or homicidal impulses, who had warned their friends against giving them a liberty which they at times considered themselves liable to abuse.

Not to protract this discussion, however, the principle of Dr. Bucknill may be considered as sound: that "the system of non-restraint must be advocated as a *best possible system*; subjected to many difficulties and many counterpoises, but still the best." We may add to this the summary view of an American medical superintendent, Dr. J. H. Worthington, written just after his return from a visit of inspection to the asylums of Europe,* which is the more interesting, as the institution of which he has charge is under the control of the Society of Friends and was formed upon the model of the York Retreat.

"Whatever we may think of the advantage of the 'non-restraint' system, its possibility is no longer doubtful. It is certainly interesting to witness at Hanwell, with its 1,200 patients, the practical working of the system, and while we may applaud the spirit of improvement and genuine philanthropy that led to its introduction there, and may be willing to admit that the nearer we approach to it in the general management of the insane, the more is their condition elevated and improved, we may yet well doubt the wisdom of absolutely rejecting, under all circumstances, a remedy that might, by any possibility, be found useful."

The subject next adverted to, in the Manual before us, that of the definition of insanity, is so nearly connected with those of its diagnosis and pathology, that notice of it may be postponed for the present. Classification is then taken up; and the oldest as well as newest systems of nomenclature of mental diseases are examined with all their complexity. Hardly any of these afford advantages for practical purposes, superior to those of the familiar arrangement, based upon clinical grounds, which divides disorders of the mind into idiocy, dementia, melancholia, mania, and monomania; with the later subdivisions of dementia, into primary and secondary, and of mania into intellectual or delusional, and emotional or moral insanity. All such

* Forty-first Annual Report on the State of the Asylum for the Relief of Persons deprived of the use of their Reason. Philadelphia, 1858.

divisions, however, are, as Dr. Tuke remarks, "only the points and headlands of a recently-discovered coast, which navigators have but partially delineated." The true aim of modern psychology is, to establish a system wholly compatible with, if not entirely based upon, physiology: whose imperfections, therefore, must retard its evolution. The nearest approach to this is the scheme of Dr. Noble; in which mental diseases consist of three groups: emotional, notional, and intelligential; to which Dr. Henry Monroe has added their classification into 1, those with mental exaltation, and 2, those with mental depression. The terms of Dr. Noble are, especially the second, reasonably objected to by Dr. Tuke. Might not the phrases sensorial, intellectual, and emotional, correspond sufficiently with the physiology of the day, as indicating respectively, the seat of disorder in the centres of sensation, constituting illusions or hallucinations; delusions, or derangements of the reasoning faculties, occurring when it is seated in that part of the cerebrum which is their organ or organs; and errors of feeling and impulse, when the site of disease is in the apparatus of the affections, moral emotions and propensities? The obstacle to this, of most importance, is, the present view of so high an authority in physiology as Dr. Carpenter, who, notwithstanding the clearness with which he defines and illustrates the emotional consciousness, gives to it, in his theory of the brain, no special seat whatever: supposing that the ideational part of every emotion has its functional place in the convolutions of the hemispheres, while the sensorium supplies to each its objective occasion, and is the sole centre of all phases of consciousness.* With more space, we should not hesitate to undertake the refutation of this arbitrary and unsatisfactory hypothesis; preferring, with Sir James Mackintosh, to consider, that "a perception and an emotion have necessarily this alone in common, that both are states of mind." Dr. Bucknill has clearly adopted the theory, that the emotional as well as intellectual manifestations, have their separate organic seat; and Brodie and other psycho-physiologists imply the same belief, which is foreshadowed with no vague significance, in the universal popular expressions, the *head* and the *heart*. The reasoning of Dr. Carpenter upon this point is evidently insufficient; in the assumption, especially, that every emotion must have an *object*, the conception of which, and the idea of pleasure or pain related to which, is indispensable to constitute it a *motive* power. All psychologists have, with Falret, perceived and admitted the occurrence of melancholy, which confers its own tinge upon *all* objects, needing no idea, or set of ideas, to sustain its emotional perversion; and the same is true of mania of self-exaltation, in many instances, and even of eroto-mania. The unquestionably *active* or *imperative* nature of emotions is equally conclusive. The modern theory of *mania sine delirio* can only find a physiological basis in connection with such a view; and, notwithstanding our deference for the eminent physiologist named, we cannot doubt its final establishment.

Chapter VI. of the *Manual*, comprising one hundred and thirty-nine pages, is occupied with the full and careful descriptive history of the dif-

* *Principles of Human Physiology*, last edition.

ferent forms of mental disease. The order of sequence chosen by Dr. Tuke, is as follows: idiocy; insanity; cretinism, and imbecility; dementia; delusional insanity; melancholia; emotional insanity; mania; and puerperal insanity. The section upon emotional insanity alone fills forty pages, and is an admirable résumé upon the subject, being illustrated amply with cases authenticating all the points asserted by the authors of this work, in common with most other psychologists since Pinel and Prichard.

The special forms of moral or emotional insanity treated of by Dr. Tuke are, homicidal mania, suicidal mania, kleptomania, erotomania, pyromania and dipsomania.

The omission of pyromania from the list, as proposed by Drs. Tuke and Bucknill, would be desirable; but the clear description given of dipsomania, or oinomania, we look upon as highly important. Dr. Hutcheson was among the first to call attention to this destructive and too frequent form of disease; one which requires arrangements for its special treatment, especially where, as in some parts of this country, a not easily explained or justified policy excludes all, or nearly all of its victims from model lunatic asylums. Hutcheson has well described, as quoted by Dr. Tuke, three forms of dipsomania; the acute, the periodic, or paroxysmal, and the chronic; all characterized by the essential feature of *irresistibility*. This is necessary to distinguish the true cerebro-mental disease from the mere vice of intemperance; although the latter may, with or without hereditary tendency, become the source of the former. The only case of *chronic* oinomania which Dr. Hutcheson knew to be completely cured, had required for the purpose two years of constant seclusion.

In regard to emotional derangements, generally, the whole tendency of modern observation and induction has been, to increase the importance of their place in psychical pathology. Even Dr. Mayo, who, with Heinrich and Leubuscher, is opposed to the theory of moral insanity, and insists upon the "intellectual criterion," yet claims to have early pointed out that the first indications of insanity are usually moral. Forbes Winslow, and Bucknill have elaborated the proof of this proposition very fully; making it clear, that, in a very large proportion of cases, the intellectual derangement is secondary; that emotional disorder, without impairment of the reasoning powers, occurs not unfrequently, while disorder of the intellect, without emotional perversion, is decidedly uncommon. The term "moral" insanity is, nevertheless, subject to both metaphysical and practical objections; clumsy as the word may be, therefore, we are glad to see the permanent adoption of that of "emotional" (although hardly better than "impulsive") by the authors of the *Manual*. It would be, perhaps, not without some advantage, if an extended alteration of the corresponding nomenclature were made to reach the conventional phrases of law and common intercourse; as *names* are *things*. If "*non compos mentis*" be retained in the old signification of insanity, as a derangement of the intellectual manifestations, it would be equally correct, and might tend to distinctness of idea, to designate as *non compos animi* one who, without essen-

tial intellectual disorder, has lost the control of the will over his emotional impulses.

The statistics of insanity occupy the concluding chapter of Dr. Tuke's portion of the volume before us.

The greatest obscurity still rests upon the *causes* of mental derangement. Dr. Tuke, dividing them into *predisposing* and *exciting* causes, gives great emphasis to hereditary transmission among the former. Esquirol and Guislain traced it in one-fourth of the cases examined into. Michéa raises the proportion to more than one-half. At the York Retreat, in forty-four years, hereditary predisposition was traced in nearly one-third. Dr. Brigham, at the New York State Lunatic Asylum, Utica, records its ascertainment in 315 out of 1,181 patients.

Dr. Leubuscher, of Berlin, has pointed out the especial transmissibility of the lower forms of mental disease, as imbecility, and of the various forms of depression. We incline to think that enough notice has not been taken by pathological writers of the *metamorphoses* which a transmitted tendency to cerebral disease, like other hereditary taints of system, many occasionally undergo; as, for instance, where insanity in several members of one or two generations, is followed by early death from meningitis or convulsions, or paralysis, in another; or *vice versâ*. We have seen this kind of sequence too often not to be convinced of its practical interest as a pathological fact.

In regard to the *sexes*, after reviewing various authorities, Dr. Tuke concludes that while it is proved that, in general, fewer women become insane than men, a difference in liability is not yet established, as the former are less exposed to the causes of mental disorder.

As to *age*, the experience of the "Retreat," from 1786 and 1840, proves that the greater number, one-third of all the cases there admitted, have been attacked between twenty and thirty; while each subsequent decennial period exhibits a gradually decreasing proportion. Other statistics, including those of the Bloomingdale Asylum, New York, are quoted, all favoring the same result, except those of Esquirol, at Charenton, whose conclusion appears to be, that between thirty and forty is the period of greatest proclivity to derangement. The admissions under twenty years of age are much more numerous in the New York Asylum than in those of England and France. Is this among the evidences of precocious development in "Young America?"

Esquirol, Guislain, and Parchappe have shown that insanity commences much more frequently in summer than in spring. Yet, "we do not, as might have been expected, find more insanity in hot climates than in cold." Dr. Webster asserts that it is much the most common in cold countries. This is an example of the difficulty of analyzing causation upon so complex a topic.

Dr. Tuke assents to the conclusion drawn by Prichard and others, that the condition of married persons is, *cæteris paribus*, much less favorable to the excitement of madness than that of celibacy. He adds, however, very properly, that one reason why celibacy and insanity are so much connected, is, that the mental peculiarities of patients,

often exhibited in years before admission to asylums may have prevented marriage.

The *exciting* causes of derangement are, however, the most difficult of determination. M. Parchappe, after a very extensive inquiry, asserts the very large predominance of moral over physical perturbating influences: the former being, in his statistics, in the proportion of 612 to 364. Pinel and others have arrived at the same opinion; and the statistics of sixteen asylums in the United States give a result of two-thirds of the cases from supposed moral causes. Among these, domestic troubles, or grief, always stand first upon the list; next, religious anxiety or excitement; then, disappointed affections; fourthly, political and other excitement; fifthly, fear and fright; lastly, excess of study, wounded self-love, etc. Of physical causes, intemperance holds the foremost place.

The proportion of *recoveries* has been shown, by Dr. Thurman and others, as quoted by Dr. Tuke, to be from forty to fifty per cent. of those admitted to asylums for the insane. But to this must be added the consideration of the proportion of *relapses*. At the Retreat, Dr. Tuke was able to ascertain that 65.6, or two out of three of those who had recovered, had subsequent attacks. In round numbers, therefore, it may be stated, that "of ten persons attacked with insanity, five recover, and five die, sooner or later, during the attack. Of the five who recover, not more than two remain well during the rest of their lives. The other three sustain subsequent attacks, during which, at least two of them die."

Dr. Farr's statistics are especially appealed to in regard to the *mortality* of the insane. In mixed asylums, not restricted to any class of society, this is estimated as from seven to nine or ten per cent. It would appear that, whatever influence insanity may have in shortening life, while in its acute stage, it loses this tendency when it assumes the chronic form: incurables often living longer than the sane.

When we remember that statistics of insanity have been kept, even in Great Britain, only for about twenty years,* the above mentioned results may be considered as decidedly important; but a much greater accuracy in detail may be hoped for, hereafter, upon some subjects.

We come next to the valuable chapters upon the Diagnosis, Pathology and treatment of Insanity, contributed by Dr. Bucknill; a considerable part of which we recognize as having been already published, in the *Asylum Journal*, and *Brit. and For. Medico-Chirurg. Review*. It would be impossible, by any brief analysis or series of quotations, to do justice to the acumen and assiduous devotion to his subject displayed by the author of these essays. Without speaking for specialists, we are sure that no others will elsewhere find, in the English language, any exposition, especially of the pathology of cerebro-mental disorders, so rational, and so much in harmony with the principles of modern pathological science.

Let us return for a moment to the *definition* of Insanity. Forbes

* Enumeration of the Insane was commenced in Norway in 1828.

Winslow, and Sir H. Holland assert the impossibility of defining it. The former, in treating of medical evidence in criminal cases, says, "above all things, the medical man should avoid defining insanity." Yet, if the question be, "Is the prisoner at the bar insane?" does not the variable significance of the term require, that, for mutual understanding between the court and the witness, each should be aware of the precise meaning attached to it by the other?

Dr. Bucknill's preferred definition of insanity is, "a condition of the mind in which a false action of conception or judgment, a defective power of the will, or an uncontrollable violence of the emotions and instincts, have, separately or conjointly, been produced by disease." Elsewhere, he abbreviates this into "disease of the brain affecting the mind;" and, incidentally, again, forgetting his *somatic* postulate, "disease of the mind, that is insanity."

Dr. Tuke observes, that we cannot well define love or anger, and yet every one knows what they are, and so it is with insanity. A reference to a common standard is thus implied. The insane man is out of the harmony of human existence. A comparison either with his former self, or with the society around him, makes this manifest; but, when the former is impracticable or difficult, the latter suggests itself to all. The French term *aliéné* is very significant. Language is the medium of communication between those of the same community; as, therefore, foreigners are known at once by mutual unintelligibility, so the want of correlation, of reciprocal sympathy, by means of language, manners and actions between the insane and the sane, makes them known as such. The Greeks had a rule of art, that all passion, represented or described, must be true; and that that alone is true, which appeals with success to the common consciousness. A similar rule may be easily applied with regard to insanity; perhaps even without adhering to Dr. Bucknill's so strongly insisted upon requisite, of proved bodily disease. Practically, a man is insane, who is not master of himself; whether this be from the brief madness of anger, the longer fascination of spirit-rapping, or the asylum-treated mania or melancholia; and, if troublesome, society does not necessarily inquire into the etiological history of his brain and mind. The question is more direct. A learned Baron of the Exchequer (quoted in the London *Times*), was pressed by the bold assertion, a favorite one with Dr. Haslam, that *all men are mad;* he replied, that, if mad, we must do the best we can under the circumstances. There must be a kind of rough understanding as to the forms of lunacy which cannot be tolerated. The most essential item, in the commonly accepted use of the term insanity at the present time, appears to be, *the loss of the control of the will over the actions and character of the individual.*

The three theories of insanity, which still divide psychologists, are well described by Dr. Bucknill, in his "Essay on Criminal Lunacy" (named at the head of this article), as the *somatic*, the *psychic*, and the *somato-psychic*. The spiritual or psychic theory has for its advocates, amongst others, in Germany, the distinguished Heinroth and Ideler; in France, Leuret; in England, Dr. Mayo, and, by implication at

least, Lord Brougham. The somatic or materialistic is represented by Freiderich in Germany, and by the phrenologists generally. The somato-psychic or mixed theory, which recognizes the existence of mind and will, while it acknowledges the brain to be the seat of the mind and the instrument of volition, is taught by Groos, Blumröder, and others on the Continent of Europe, by Barlow, Forbes Winslow and other psychologists of Great Britain, and is, we believe, the accepted doctrine in this country.

We are in some doubt, however, where to place Dr. Bucknill. In the Essay just alluded to he gives us the impression that he belongs to the class last described, with these words (p. 15):

"Fortunately, there is a middle course. The psycho-somatists find in the liability of the cerebral instrument to disease, a reasonable basis for the irresponsibility of the insane; and, in the freedom of the spiritual will, a just ground for the responsibility of the sane."

But, when we turn to p. 389 of the "Manual," we find the following:

"Mr. Paget supplies (in a passage quoted) arguments for a strictly cerebral view of mental power, which go deep to the root of the matter. If he repudiates the conclusions to which his reasoning necessarily tends, it may be owing to some lack of confidence in his audience. He may think that to teach the identity of mind and of cerebral function, is mental food too strong for the College of Surgeons. As Mephisto exclaims:

'Das Beste das du wissen kannst
Darfst du den Buben doch nicht sagen.'

"But his teaching will strengthen the mental digestion, and after a while stronger diet may be ventured upon."

In a review, also, confessedly from his hand,* Dr Bucknill endeavors to convict Dr. F. Winslow of inconsistency, in having avowed himself a *spiritual physiologist*, and yet assenting to the truth, that the *manifestations* of mind are implicated and disordered in and by diseases of the brain. Unlike Dr. Bucknill, the "mental chemistry which unites these apparently incompatible elements" appears to us sufficiently plain; he has himself given us the best elucidation of it, in the essay above quoted. Are we to infer that he, too, has adapted his diet, with care, to the palates of the Irish College of Surgeons, from whom his essay received so honorable an award? If so, we cannot but wish that the intelligence of medical fraternities, and the candor of their teachers, might be better adapted to each other without depriving us of the nutrition of undisguised scientific truth.

Leaving philosophical questions, however, and following Dr. Bucknill into his more congenial sphere of strictly cerebral pathology, we find his platform thus defined:

"*The physiological principle upon which we have to build a system of cerebral pathology is, that mental health is dependent upon the due nutrition, stimulation and repose of the brain; that is, upon the conditions of the*

* *Brit. and For. Medico-Chirurg. Rev.*, Oct. 1855.

*exhaustion and reparation of its nerve-substance being maintained in a healthy and regular state; and that mental disease results from the interruption or disturbance of these conditions.*"

The following remarks are also especially deserving of attention.

"To us it is not less an ultimate fact, that certain poisons interrupt the functions of certain organs, than that atrophied organs cannot discharge their functions with vigor; and, hence, the rational estimate of circumstances which have taken place during life, is not less important in the investigation of pathological lesions than post-mortem observations. The admirable precision which miscroscopic observation and chemical analysis have of late years acquired, has tended greatly to distract the attention of physicians from the importance of rational pathology. Now-a-days, all lesions which cannot be calculated in test-tubes, or demonstrated under object-glasses, are apt to go for nothing; but this kind of pathology has hitherto done little towards the elucidation of mental disease. The reason of this appears to be as follows: The pathological conditions of insanity almost always involve the whole of the cerebral hemispheres. A general condition of the cerebral convolutions capable of producing an amount of structural change distinguishable under the object-glass of the microscope, would scarcely be consistent with a continuance of life."

A careful distinction is made between the nosological and the natural or pathological classification of cerebral affections. For convenience, the delirium of fever, of cerebritis, etc., are excluded from the list of forms of insanity; but the line drawn between phrenitis, for example, and acute mania, should not be, as it has been by some psychopathologists, made one of contrast rather than gradation. With Sir Henry Holland, our author considers that great profit may be gained by the student of insanity in giving attention to the causes and signs of delirious thought and perverted feeling, in all classes of bodily disorder where they are observable. He will thus be prevented from taking the narrow view which ascribes all forms of mental derangement to a single pathological state; and will be prepared to admit the broad principle, "that insanity may be occasioned by any and every pathological state which is capable of taking place within the substance of the brain."

An excellent résumé of the leading facts in the morbid anatomy of insanity, as at present observed, is thus quoted from M. Parchappe:

"1st. Monomania. In this form of insanity no pathological change is found to exist in the brain, and the probable cause is to be sought in the organic predominance of some portion of the brain, in consequence of its size or activity. 2d, acute mania, and acute melancholia. In these forms of insanity, the alterations found in the brain, to a certain extent resemble those of inflammatory affections of the organ. They are hyperæmia of the pia mater, and of the cortical substance, partial injections of the subarachnoid tissue, punctiform injection, and occasional softening of the cerebral substance; it is rare that the meninges are found extensively thick and opaque. The above alterations are usually more decided in acute melancholia than in acute mania. In

sympathetic mania, that is, mania occasioned by the irritation of some part of the distal nervous system, no anatomical changes may be discovered if the examination is made in the early period of the disease; but, after a while, the brain passes from the state of physiological excitement into that of pathological change, and then the above alterations may be expected to be found on examination. 3d. Simple chronic mania. In this form of insanity, the aspects of the brain are altogether different from those which prevail in the acute paralytic (?) forms of insanity ; they are atrophy of the convolutions, with loss of color and induration of the cortical substance, or of the medullary substance, or of both; serous infiltration of the pia mater, and dropsy of the ventricles, connected with, and consequent upon, general atrophy of the brain. 4th. Paralytic insanity (general paralysis).—In this the essential alteration consists in softening of the middle layer of the cortical substance ; very frequently, also, the pia mater is thickened, adherent, and infiltrated ; in the acute form, the cortical substance is hyperæmic and deepened in color, and the pathological appearances of acute mania are present. In the chronic form, the cortical substance has lost color and become thin; atrophy of the convolutions, and the appearances of chronic mania are present. 5th. Epileptic insanity.—In this the alterations resemble those of simple chronic mania."

Dr. Bucknill places especial emphasis upon the evidence that, in the more acute forms of mental derangement, *hyperæmia*, and inequality in the circulation of different parts of the encephalon, caused often by previous or localized inflammation, is an important condition. He is careful to distinguish this hyperæmia, in description, from that of inflammation; notwithstanding that it may produce "transparent exudations of serum, and interrupt the normal endosmotic motions;" the sign of difference being, that it "does not occasion the fibrinous and purulent exudations which are found in cerebritis."

The disturbance of circulation alluded to, along with local or general "irritability, or that state in which slight causes of nervous action produce great effects," constitutes the condition which, as it appears in various organs, has been, time out of mind, very unfortunately, designated as "chronic inflammation." Not intending to enter now upon this battle ground of pathological theory, we may simply refer to the writings of Handfield Jones for the justification of the view, that the term "chronic inflammation," as thus misused, is a disadvantage to our nomenclature. Its removal, however, or corrected employment, would be no more important than the exclusion of the view of Virchow, alluded to by Dr. Bucknill, which includes "all disturbances of nutrition, and even all atrophies and degenerations, under the term inflammation;" an arbitrary dictum, which, but for the authority of its source, would be pronounced an absurd and injurious perversion of the use of language.

It is to be regretted that there is no single term which will properly designate the state above spoken of, more fully and clearly than that recently in common use, as applied in the case of irritable stomach, irritable conjunctiva, irritable uterus, spinal irritation, and, we might go

farther than Dr. Bucknill in adding, especially in reference to periodical or paroxysmal mania or melancholia, *irritable brain.* It is a state consisting especially in enlargement, with relaxation, yet with great erectility of the blood-vessels of an organ, with a heightened susceptibility to all exciting agencies, the reaction upon which is often perverted, as well as excessive and painful : the most familiar example of which is seen in that condition of the optical apparatus which, even in the absence of granulation or exudation, is yet commonly called *chronic ophthalmia.* Were not the word *hyperæmæsthesia* too long for use, it might serve a convenient purpose.

The most conspicuous labors of Dr. Bucknill, however, in connection with cerebral pathology, have been those devoted to the study of *atrophy* of the brain in insanity. His first publication upon this subject was in 1851 ; but a fuller account of his investigations appeared in the *British and Foreign Medico-Chirurgical Review*, January, 1855, giving the tabulated result of the measurements and weights of sixty-four brains, examined for that special purpose. The subject of the specific gravity of the brain had been, in the mean time, elaborated by Drs. Sankey, Oliver and others. The inference from these data is an extremely interesting one.

"The commonest appearance met with in the brains of insane persons is that of *shrinking.*"

"In chronic mania, dementia following mania, and primary dementia, the amount of cerebral atrophy may generally be calculated upon the enfeeblement of mental power."

The apparent and exciting causes of this atrophy are inferred to be—1, poverty of blood ; 2, derangement of the normal relation between the nervous and vascular systems, as *e. g.* by disease of the cerebral vessels ; 3, the molecular change produced by blows or violent concussions; 4, inflammation, or long-continued congestion; 5, want of rest to the brain, and especially of *sleep.* Want of refreshing sleep, Dr. Bucknill believes to be the true origin of insanity dependent upon moral causes.

The existence of morbid excitability in an organ suffering under defective nutrition, is not at all peculiar to the brain. And, as our author remarks, "nothing is more common than for an atrophied brain to suffer from temporary hyperæmia."

The facts collected in regard to the specific gravity of the brain, are sufficient at least to prove the existence of great alterations in the substance of the cerebrum, in connection with mental disorder. Increased specific gravity of the brain, observed especially in epileptic cases, has been supposed by Dr. Bucknill to depend probably upon deposit of albuminoid material. Diminution of density, on the other hand, he refers to fatty degeneration, or substitution ; and this view has received confirmation from the researches of Henle and Meckel, showing the occasional conversion of the contents of the brain-cells into cholesterine, forming what they call violet-fat (speck-violet), from its blue reaction with iodine and sulphuric acid. Besides small plates of cholesterine, Dr. Bucknill has seen, in degenerated brain-tissue, peculiar

bodies not elsewhere described; being in shape like the blade of a lancet, pointed at both ends, and about three or four times the width of a nerve-tube; reminding the observer of the raphides of some plants. In what has been called *hypertrophy* of the brain, Dr. Bucknill considers as most probably correct, the view of Dr. Handfield Jones; that, instead of a real hypertrophy of normal tissue, the increase consists in an insterstitial fibro-albuminous deposit. Dr. Bucknill uses the terms *positive* and *relative* (quantitative and qualitative?) atrophy, to distinguish between this change and the shrinking of the brain above mentioned. There is great interest in the exemplification thus obtained, of the analogy prevailing, in such important respects, between the pathology of the highest centre of the nervous system, and that of the glandular and other viscera, of lower function, throughout the body.

In regard to partial insanity, or monomania, without appreciable change of the brain, which presents the greatest difficulty to the somatic theory, our author writes as follows:

"When the disease first exists, it is attended by pathological states of the cerebral vessels. A morbid condition of the cerebral organization is occasioned, attended by the phenomena of insanity. After a short time the vessels recover their tone, the brain is nourished, and its size maintained as a whole. But the original balance of its organs is not regained; their nutrition having been impressed in the type or mould of their diseased state. The result is chronic mental disease, of a nature which leaves behind no pathological appearance."

The state of the *fluids* of the body in insanity has not been altogether neglected. Hittorf, Erlenmayer, and Michea have investigated the condition of the blood; and Sutherland, especially, that of the urine. In regard to the blood, the results are too incomplete, as yet, to be of much value. The inductions which Todd, Simon, and others have of late rendered so important in connection with the "humoral pathology" of various nervous affections, must, we anticipate, find their place, hereafter, along with the demonstration of changes causing, or caused by, some forms of mental derangement. Dr. Bence Jones has examined carefully the state of the urine in phrenitis, delirium tremens, and general paralysis. Our readers are probably familiar with his results, as regards the altered proportion of the phosphates. Dr. Sutherland ascertained that, in four out of five cases of acute mania, the relative amount of phosphates was above the mean of health. In acute dementia, they were remarkably deficient; their quantity being lowest when the mental faculties were most feeble. In general paralysis also, the deficiency of phosphates was very great. In chronic mania and chronic dementia their amount was below the average in every case but one. The reaction of the urine was found by Erlenmayer to be alkaline in most cases of recent mania. Dr. Sutherland found it acid in much the larger number of instances of acute and chronic mania, but alkaline in twelve out of twenty-five cases of general paralysis.

The concluding chapter of the "Manual," upon the Treatment of Insanity, is evidently worthy of the subject, and highly creditable to its

author. As, however, the first commandment enjoined upon all private practitioners (and with excellent reason), makes it necessary to send every lunatic patient at once to a lunatic asylum, we may content ourselves, at present, with commending the study of this chapter to all requiring information upon its topics. While subdividing the modes of treatment of insanity into the hygienic, the moral, and the medicinal, it is obvious that the basis of Dr. Bucknill's therapeutics is *physiological;* regarding the brain as an organ, whose morbid states demand the same relative principles of care and management, with a view to its repose, nutrition, circulation, etc., as any other organ; what is commonly called "moral" treatment, in fact including much that is merely *hygienic* or rational, in the simple adaptation of circumstances to the exhausted, irritated, or disturbed condition of an important viscus. At the same time, very full justice is done by the author to the importance (especially after the early and violent symptoms of mental disorder have subsided) of *individualized* treatment; that is, of constantly impressing upon the insane the beneficial influences of the character of the sane, in intercourse with them. None can fail to see that in this, the conjoined assistance of all who attend upon his patients, is essential to the success of the medical officer; and that, for such a purpose, the most humane and sympathetic minds are often more fully available, than the "tall and powerful" attendants, upon whose presence Gardiner Hill insists.

We should be glad to begin, instead of closing an article, with the notice of Dr. Bucknill's admirable "Essay on Criminal Lunacy," of which, however, this is the second edition; the dedicatory letter to Lord St. Leonards being dated in 1854. Very little alteration has taken place since that year in the direction of reform; since, as another writer has observed, "the law always drags heavily at the heels of general intelligence." The subject is one of great interest to both the medical and legal professions, as well as, in fact, to every citizen; as it concerns the very foundations of law and justice. We pause, therefore, long enough to remark upon the quotation, with approval, in the essay, of an eloquent passage from Cousin, of which the essence is expressed in these sentences:

"Justice is the true foundation of punishment; personal and social utility is only a consequence."

"*Punishment is not just because it is useful* as a preventive or a corrective; but it is *useful* in either or both these ways, *because it is just.*"

We are satisfied that this is not the principle of modern jurisprudence; which even reverses the dictum, holding, that society has the right to administer punishment, *not because* it is *deserved*, but *because* its administration may be of *use*, by preventing the repetition of crime. This is sustained amongst others of ample authority, by Lord Denman * and Lord Brougham.† It belongs to the progress of our age. Says Prescott, the historian: ‡

* Answers of certain judges, etc., 1847. † *Hans. Par. Deb.* lviii. 728.

‡ *Hist. of Mexico*, vol. i. p. 169.

"It is only with increasing civilization that the legislator studies to economize human suffering, even for the guilty; to devise penalties, not so much by way of punishment for the past as of reformation for the future."

We are at present in an important era of transition in regard to the legal relations of insanity and crime. The old tests of "delusion" and of "knowledge of right and wrong" having been proved to be altogether insufficient, much that is now in the crude state of opinion remains to be assimilated and organized into law and precedent. The first need is, that lawyers and doctors should be placed in harmony upon the subject of moral insanity. Let us hear a few words upon this topic from one who holds a high position in connection with psychological medicine: *

"The plea of insanity is often a most righteous one, and altogether too humane in its character to have its just influence jeopardized by being used by those whose only claim to be shielded by its benevolent influences consists in the atrocity of their offences, or the enormity of the frauds they have perpetrated on the community. Gigantic frauds and startling crimes do not constitute insanity, nor are they to be regarded as symptoms of the disease; and if our courts should once begin to permit such doubtful associations, the sound common sense of the community, it is to be hoped, will soon decree, that for that form of insanity—no matter whence it derives its title—the most efficient treatment will be found in some well conducted penal institution."

No principle, it would appear, is more important to have speedily settled, than that the burden of proof, in criminal cases, rests altogether with those who bring forward the plea of insanity; and that, in the words of Dr. Forbes Winslow, "the evidence of moral insanity ought to be clear and convincing." A doubt here should weigh rather *against* than for the prisoner. This is the view stated clearly by our American judges, Lewis, Edmonds, and Whiting; although some of the medical jurists and psychopaths, as Ray and the younger Pinel, lean toward a contrary opinion.

It is perhaps equally necessary, however, to recognize with Drs. Mayo and Winslow, the existence of some responsibility, not only to conscience but to law, on the part of many insane persons;† although it be, in most cases, what Pinel designates as "une *attenuation* de responsabilité." The author of the "Essay" before us agrees fully with the writers above named, in urging the want of an institution or department, "intermediate between the prison and the madhouse," in which criminal lunatics may be confined, and subjected to appropriate discipline—a want which has been felt in England, and even alluded to in Parliament since 1807. Dr. Winslow, at the same time, in his excellent "Lettsomian Lectures," and in other works, has taken a most humane view of the diminished liabilities of the insane, as the following passage, appropriate to our present subject, will show:

* Dr. T. S. Kirkbride: Report of Penn. Hospital for the Insane, 1856.

† See Barlow on man's power over himself to control insanity. Lea and Blanchard, 1847.

"I affirm, that in estimating the amount of punishment to be awarded, it is the solemn duty of the judge, not only to look at the *act itself*, but to consider the *physical* condition of the culprit—his education, moral advantages, prior social position, his early training, the temptations to which he has been exposed, and, above all, whether he has not sprung from intemperate, insane, idiotic, and criminal parents."

Tried by these tests, what crime, or rather what criminal will be left for the gallows? Truly it has been said that we have no "mentometer" with which to judge of human responsibility; and this subject cannot even be touched upon, without our expressing the opinion, that, on the ground of expediency alone, it is time for mediæval punishments to be abolished in civilized communities; the more especially, since their repulsiveness renders any punishment for capital offences dangerously uncertain. Dr. Bucknill asserts that it is much a matter of chance in Great Britain whether a man tried for murder will be hung, incarcerated for life at Bethlem, or acquitted by the jury from horror of capital punishment; and we are not sure that society is any safer here.

A crying want, also, emphatically treated of in the essay of Dr. Bucknill, and no less palpable in the United States, is that of a more competent tribunal than an ordinary jury, with medical witnesses summoned *for one or the other side*, to decide upon the sanity of a prisoner. They do those things more rationally in France; where *experts* are selected, who not unfrequently occupy *months* of daily attention and intercourse in determining and recording evidence of the mental state of an individual.

Hastening, however, to conclude these observations, we may sum up in a few words, what, from the luminous exposition of Dr. Bucknill and of others, we conclude to be the great desiderata at the present time in the jurisprudence of crime and insanity.

1. That juries should be restricted to the trial of the *fact* of the commission of crime; the question of the sanity or insanity of the prisoner being left to a commission of *experts*.

2. That all homicides acquitted on the plea of insanity should be, without exception, confined for life in an appropriate institution selected by the court.

3. That capital punishment should be abolished in all communities provided with the means of secure and permanent imprisonment.

4. That careful classification should be made (Wharton) of, 1, *sane* convicts; 2, insane *malignant* convicts; and 3, *innocent* insane convicts.

5. That special provision should be made for the separate detention, management, and discipline of insane criminals or criminal lunatics. In the words of a late admirable writer upon the subject, "the offence (sane or insane) demands, for the safety of society, that the offender should be securely secluded;" the diagnosis of his cerebro-mental state being then, however important, a secondary question; one which will assume, it may be, a still less relative magnitude, unless in a psycho-pathological view, when the science of the alienist, and the prac-

tice of the forum and the bench, are brought into full harmony with that humanity, which always pre-indicates the final result of research into truth. H. H.

PHILADELPHIA, SEPT., 1858.

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ART. X.—*Experimental Researches relative to the Nutritive Value and Physiological Effects of Albumen, Starch and Gum when simply and exclusively used as Food.* By WILLIAM A. HAMMOND, M.D., U.S.A., 1857, pp. 79. (*A Prize Essay of the American Medical Association for* 1857.)

DR. HAMMOND'S investigations being based upon the law of waste and supply, he opens his subject by laying down his views on this point, "From the first moment of existence to its termination two processes are constantly progressing in the healthy organic being. The first of these—*nutritive*—is that by which the several tissues of the body are primarily formed, and subsequently developed and nourished: the second—*decay*—is the direct antagonist of the former, and through it those portions of the organism which have performed the office in the economy for which they were assimilated, are decomposed into simpler substances and after undergoing continued metamorphosis, are eventually excreted from the system. The continuation of these forces constitute life, the cessation of either of them, even for a limited period, induces death."

This is a judicious statement of the doctrine of maintenance, and contrasts favorably with Mr. Paget's views of the same subject as contained in the first volume of his Lectures on Surgical Pathology, wherein he states that, "It may be proved, partly by demonstration and partly by analogy, that each integral, or elemental part of the body is formed for a certain natural period of existence in the ordinary condition of active life, at the end of which period, if not previously destroyed by outward force or exercise, it degenerates and is absorbed, or dies, and is cast out, needing in either case to be replaced for the maintenance of health." Mr. Paget, however, failed to demonstrate this.

It is a magnificent idea, that of a single universal principle underlying, containing and controlling whole systems of subordinate principles. We know of but one principle that bears any, the most remote analogy to this, and it is confined to a single system—the nervous—but the doctrine here advocated embraces all to the last molecule, an illusion that must fade before the advance of science.

Dr. Hammond's object in conducting his investigations was to contribute to a fuller understanding of the effects of the different classes of food, and to indicate their value as aliments. To this end he confined himself during limited periods of time successively, to an exclusive diet of albumen, starch, and gum, leaving sufficient intervals of time between these feasts. Having selected the first as the representative of the protein compounds, the author makes the following remarks on the

physiological relations of these substances—that is to say, of nitrogenous food. "It is an established fact in physiology, that nitrogen is essential to the formation of all the organized tissues of the body. The experiments of Régnault and Reiset have definitely determined what had previously been arrived at by Boussingault in another way, that this substance is not absorbed into the system from the atmosphere by respiration, but that there is actually, on the contrary, a loss of nitrogen to the organism from the lungs. It must therefore be entirely derived from the alimentary substances ingested in the stomach. It results, therefore, that the food, to be fully available for the requirements of life, must contain nitrogen in its composition, and it was until recently contended by many physiologists, that the nutritive value of aliments was to be directly measured by the proportion of this element entering into their constitution. It is now, however, admitted that in order to conduce to nutrition of the tissues, the nitrogen must be introduced in the form of protein."

Is the reader, then, to infer that nitrogen is the grand essential in the organization of the tissues, and that protein is merely a vehicle used for its transmission? Certainly not! Dr. Hammond, addressing a learned body, does not descend to particulars; but we, speaking to the young as well as to the experienced practitioner, must be more definite in our statments, and we would here remark, that nature in the formative process deals mainly in compound bodies; and, still speaking generally, confines synthetical operations to the retrogressive series. Protein (albumen) containing nitrogen as a part of its constitution, and containing also such other simple and compound bodies as are required by the tissues and secretions—is the nutritive material *par excellence*. Nitrogen is a constituent of protein, but it is no more an essential than any other element entering into its composition.

We mention this merely to guard against misconception.

The albumen used in these experiments was obtained from bullock's blood by boiling. "It was well washed to remove, as far as possible, all extraneous matters;" but of course simple washing would not yield pure albumen. We are not, therefore, to expect either very speedy or very marked results. Distilled water was the only fluid taken during the investigation.

No decidedly ill result appeared until the fourth day, when febrile reaction occurred, attended with abdominal pains. Diarrhœa supervened and on the tenth day the debility became extreme, and the experiment terminated. The pulse did not at any period rise above 100. The decrease in weight was about five pounds. Confirmation is added to the fact, now universally admitted, that albuminuria may exist independent of disease. Dr. Hammond remarks, "The present researches show that albuminuria is produced by the continued use of highly albuminous food in large quantities, and that it was not (so to speak) until the system was saturated with albumen, that it made its appearance in the urine."

The author draws the following conclusions:

"1st. That the proportion of nitrogen eliminated by the kidneys to

that absorbed into the circulation, is, in man, much less than is generally supposed.

"2d. That even when the body is losing weight from the oxidation of its fat, the excess of nitrogen over that escaping by the kidneys is retained in the system, both in its original form and under that of other combinations."

Dr. Hammond's next experiment was with starch. Having determined that substances isomeric with starch exist as constituents of certain tissues in man and other animals, he concludes that amylaceous substances are not peculiar to vegetables; but in the next sentence he informs us that because starch does not contain nitrogen, it cannot contribute to the nutrition of the tissues. The chemical physiologists, however, are of the opinion that the value of food is not solely dependent on the presence and proportions of the chemical elements which enter into its composition, and this observation finds confirmation from our author, who states that the value of starch rests on its heat-producing power; and, he adds, "that its easy digestibility renders it superior to fatty substances, although the latter contain a greater proportion of combustible material."

Leaving the question of digestion in abeyance for the present, we pass to the rapid consideration of its results with starch. The preparation used in this investigation was that familiarly known as corn starch. Now, in our opinion, the author might almost as well, and with much less inconvenience to himself, have lived upon potatoes. The manufacturers of this article justly recommend it for its nutritious qualities, and doubtless they will quote these experiments as confirming their statement.

This diet was, as in the case of albumen, continued during ten days, the fluid used being distilled water.

As we might reasonably expect, the pulse did not exceed its normal frequency ten beats during the experiment, and there was a scarcely appreciable loss of weight.

On the fourth day, debility and disturbed sleep occurred; torpor of the bowels followed, attended by febrile reaction, water brash, and head-ache. Boils made their appearance on several parts of the body, and one or two scratches on the hand became painful and showed a tendency to inflammation and suppuration.

Palpitation of the heart and oppressed respiration became very troublesome symptoms, to which Dr. Hammond is, perhaps, predisposed by previous disease—he stating in the introduction, that some few years previously he had been troubled with symptoms indicative of disease of the heart—from which he had, however, entirely recovered.

Sugar appeared in the urine.

In the blood, albumen was diminished, and fibrin increased in quantity.

In relation to fibrin, Dr. Hammond remarks: "So many different views of the value and character of the fibrin of the blood are held by physiologists, that I merely state the fact of its occurrence in this fluid in increased quantity after farinaceous diet without attempting to

account for it. Whether fibrin is a substance of the ascending or descending grade of metamorphosis is as yet far from determination." Let us look at the conditions. The diet was not free from, but it was deficient in protein and the usual inorganic constituents of food. Now, suppose fibrin to be of the descending grade, and to result solely from the disintegration of the tissues ; how are we to account for the equable pulse and the undiminished weight of the body ; a moment's reflection will show that this view is simply contradictory. But no such difficulty occurs when we regard fibrin as a transition substance formed from albumen by oxidation, which body, not being supplied as freely as required, and being, if anything, more rapidly oxidized than usual, owing to the increased frequency and force of the respirations (with undiminished capacity of lung and a low temperature of the air), must have been rapidly converted into fibrin ; and hence the relative figures. Dr. Hammond's final experiment was with gum arabic and distilled water. In four days the pulse rose from 80 to 108, and the loss of weight was also decided.

Hunger, colicky pains, and debility were experienced within the first twenty-four hours, and these symptoms rapidly increased. Febrile reaction set in, attended by soreness of the abdomen, and an impacted state of the bowels. Prudence forbade the longer continuance of the investigation, and it terminated with the fourth day. The consequent indisposition, however, lasted several days longer, and required great care in diet, etc.

The gum was found in the fæces.

From the *résumé* at the close of the essay, we select the third article, as being the nucleus of the whole investigation, and worth more than some octavo volumes which it has been our misfortune not only to buy, but read.

"3. Either some other means than the urine exist for the elimination of nitrogen from the system, or the excess (over two-thirds) is retained in the organism, even when the body is rapidly decreasing in weight."

This essay gives evidence of learning and ability. Had the manuscript received from the body which indorsed it (the American Medical Association) the benefit of a matured experience (which the writer had a right to expect), in the form of friendly criticism, it would have been of more value to the profession, and to Dr. Hammond of greater worth, than the prize which was awarded to it.

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In subsequent numbers we propose to notice some recent works bearing on certain points relating to digestion.

ART. XI.—*Critical Examination of all the recent Works relating to Infantile Pathology and Therapeutics; prepared for the* NEW YORK JOURNAL OF MEDICINE. By A. JACOBI, M.D., Physician to the Children's Department of the (Canal street) German Dispensary of the city of New York.

I. POPULAR WORKS.

1. *Kinderdiätetik. Eine Anleitung zur naturgemässen Pflege und Erziehung des Kindes.* Von MAUTHNER VON MAUTHSTEIN. Dritte Auflage. Wien, 1857, pp. 272.

*Infantile Dietetics. Rules for the Proper Care and Education of Infants.* By MAUTHNER VON MAUTHSTEIN. Third edition. Vienna, 1857, pp. 272.

2. *Kinder-Diätetik oder naturgemässe Pflege des Kindes in den ersten Lebensjahren, mit besonderer Berücksichtigung der noch dabei herrschenden Irrthümer und Vorurtheile.* Von ALOIS BEDNAR, Doctor, etc. Wien, 1857, pp. 275.

*Infantile Dietetics; or, on appropriate care of the Child in its first Years, with particular Regard to still reigning Errors and Prejudices.* By ALOIS BEDNAR, M.D., etc. Vienna, 1857, pp. 275.

3. *Den Deutschen Müttern und Vätern; ein Buch über das Werden und Wachsen ihrer Kinder als Schlüssel zu deren gesünderer Erziehung.* Von Dr. LEOPOLD BESSER. Frankfurt-a-M., 1858, pp. 344.

*A Book, for German Mothers and Fathers, on the Formation and Growth of Children, being a Key to their sound Education.* By Dr. LEOPOLD BESSER. Frankfort on the Maine. 1858.

4. *Education physique et morale des nouveau-nés, suivi de l'importance de l'allaitement pour la mère.* Par le Dr. J. GAUVENAU, médecin, etc. Paris, 1858, pp. 106.

*On Physical and Moral Education of Newborn Children, with an appendix on the Importance of Nursing to the Mother.* By Dr. J. GAUNEAU. Paris, 1858, pp. 106.

5. *The Mother's Handbook: a Guide to the care of young Children.* By EDWARD H. PARKER, M.D. New York, 1857, pp. 250.

THE majority of books on dietetics of infants do not form a part of the library of medical practitioners, who usually have neither time nor inclination to read whatever is written for the public in general. Now, we do not contend that all the numerous books published on this subject ought to be read by the profession, for the purpose of increasing their medical knowledge; for an exact acquaintance with physiological facts enables the medical man to draw his conclusions for himself. But

there is good reason why every physician should read as many popular books on infantile dietetics as possible. It is only natural that the public should, in their selection of books written on a medical subject, mostly depend upon the judgment of their medical advisers; in this case, the physician is placed in the most favorable and agreeable position; he has not then to cure diseases, but to prevent them; not to act as doctor, but as medical friend and protector. Every educated physician has no difficulty in deciding what kind, and what amount of instruction may be safely recommended in the individual case; but the very fact, that the kind of instruction has to vary with education, position in life, and talent, should induce physicians to read as many popular works on dietetics as possible. What is most important is, that no works be selected in which anything is given not based upon incontestable scientific results; as nothing is more apt to confuse the mind, than discussions on scientific subjects not wholly decided upon. Whatever, then, is laid before the unprofessional public ought to be perfectly clear and intelligible. Therefore everything relating to pathological changes, and the cure of diseases, should not be a part of the work we refer to; when they are given, they are more than unnecessary, they are positively injurious, because subjects which require the student and physician years to thoroughly comprehend, will certainly not be readily understood by the popular mind. These preliminary observations were rendered necessary, that we might apply a uniform standard to the works under consideration.

Of the three first named works we shall say but very little, because we know of no translations, by means of which their valuable contents have been laid before the American public. Professor Mauthner's work is not a new book; this third edition comes fully up to the development of medical science at the present day, as the first one did some years ago; it is widely known throughout Germany, and has been favorably received by the public. The untimely death of the author, shortly after his visit to this country, we have to mourn. The book is original throughout.

We cannot say as much of Dr. Bednar's little book. There is not one chapter in it which does not contain a vast amount of experience, and exhibit a fine talent for popular writing. But all this experience, talent and knowledge belongs, not to Bednar, but to Dr. L. F. E. Bergeret, whose work, entitled "*Maladies de l'enfance; erreurs générales sur leurs causes et sur leur traitement. Instructions élémentaires, règles hygiéniques.* A Paris, 1855, pp. 323." Dr. Bednar has almost entirely translated, while hardly mentioning in his preface, Dr. B.'s name. Such is the case, especially in the chapters on worms and dentition. The author proves the slight importance of both these agencies in the diseases of the infantile organism, while the prejudice, in regard to them, of the public, and, we are sorry to say, of physicians, is great and universal.

Dr. Besser has, at last, after having made himself a good reputation, a few years ago, by a small pamphlet on the importance of the first days of infantile life for the education of infants, come before the public with a book, which cannot fail to place the author in the first rank

among popular writers. His purpose is not only to give a number of remarks and prescriptions on physical and mental education of children, but to make parents understand why they are given. His expositions of generation, embryology, pregnancy and parturition, belong to the best we have ever seen published for the use of the public at large. This book is more deserving of being translated for the benefit of our country, than any with which we are acquainted.

Dr. Gauneau's book treats of the usual objects of a work of this character; such as food, air, temperature, light, exercise, bathing, dress, dentition, weaning, etc. Good though a part of the articles be, and although we do not desire to detract in the least from their value, it is impossible for us to agree with the author in all his premises. Among the opinions and doctrines which we could not approve, are the following: "Digestion is said to be more active during sleep, while physiology is teaching the contrary; the circulation of the blood to be more rapid, because of the greater number of pulsations, while it is well known, that the quickness of the pulse frequently is not in proportion to the rapidity of circulation. The infant ought to take the breast, according to our author, every hour, or at least every two hours during the first four or five days, 'as long as the milk fever lasts,' and weaning never ought to take place, in common cases, before 16 or 18 teeth are cut, at 22 or 24 months of age; and in no case to be allowed before the age of 13 or 14 months." We can no more subscribe to this than to Dr. G.'s assertion, that generally wherever cerebral symptoms and mania, occurring during the puerperal indurations of the breast, degenerating into cancer, sterility, leucorrhœa, etc., are the consequences of mothers not nursing their infants themselves, the author does not even undertake to show a physiological or pathological connection, as between cause and effect. Finally, sentences like the following do not read well in a medical work: "At the same time that physical and moral strength are being developed, the organs, too, develop themselves" (p. 73). The author does not appear to be entirely convinced of his own "convictions," because there is a striking contradiction between the following important sentences: "The moral education of the infant begins with its birth" (p. 41), and "the infant cannot have habits at this early age, its life being too active; every day new sensations are impressed upon its brain, and the preceding ones are forgotten" (p. 65). Nevertheless, there are some good views, especially in the chapter on moral education, which we sincerely wish every mother knew, and the perusal of which has given us a great deal of pleasure.

Dr. Parker's book has been written for the purpose of "giving to the mother just that information which she needs as a mother, and not that which will make her believe that she can do without the services of a physician when her child is sick;" and on the principle, that "a smattering of medical knowledge is an especially dangerous thing." According to the views laid before our readers in our introductory remarks, we can but agree with the plan followed in Dr. P.'s book, but we must express the opinion that there are directions in it which either allow, or require more, than we shall deem proper to allow or require.

We should not allow a pregnant woman to take, at her pleasure, the pills recommended on page 16, the less so, because we do not agree with our author in his opinion that the bowels, in pregnancy, ought to be moved every day, and that constipation brings with it many discomforts and annoyances; for it is well understood, that moderate constipation, during pregnancy, is as common as it is easily tolerated. Moreover, we do not think that the two or four grains of bi-carbonate of soda recommended would have any effect on the excessive acidity of the stomach. Further, we should not allow a mother to administer to her infant a compound mixture of chalk, tincture of kino and of cardamoms (p. 161), as we should not expect to find in her the capability of making a diagnosis between an ordinary slight cold, and a graver disease (p. 166), or between spasmodic or membranous croup (p. 170).

Opinions may differ on dietetical as well as on pathological subjects, and we may be allowed to state, that the use of the syrup of rhubarb (p. 151), seems to us at least unnecessary. We believe that constipation in infants, in the majority of cases, is due to the superabundance of casein in the milk; therefore, the administration of a small quantity of sugar when wanted, or every day, will generally effect a remarkable regularity of the bowels. For this reason the reader will perceive the necessity of being careful in the administration of sugar-water which Dr. P. recommends as a regular beverage during the summer months (p. 109). It is often apt to produce or increase diarrhœa, so common among our children during the heat of summer, the influence of which is certainly not so unexplained as Dr. P. considers it to be. There are other doctrines taught in this work, to which we should not assent, but we shall allude to only one, viz. cutting the gums. The operation itself needs no explanation. We will only state that the teeth are pressing the gum long before becoming visible, even before the birth of the infant. How is it, then, that all the formidable accidents, said to be consequent on dentition, are seen only when the teeth are beginning to penetrate the surface of the gum. Neither is the operation so innocent as Dr. P. believes it to be. If the gum be incised before the tooth is near the surface, we may expect a firm cicatrix to be formed, which will afterwards produce real difficulties. We have, indeed, seen good effects from incisions of the gum, but in only a very few cases, and we doubt if we shall have to make them "many hundred times" in all our lifetime. We desire again to direct the attention of our readers to Dr. Bergeret's book above quoted for interesting remarks upon this subject. While thus exposing what we believe to be some weak points in Dr. P.'s book, we have the sincere conviction, that it will have a vast number of readers among American mothers. Dr. P.'s elegant style of writing and earnestness cannot but gain a great many admirers. There are in his little work so many just remarks on the care of the infant before and after birth, on wet nurses, on artificial feeding, on weaning, on the management of the sickroom, etc., that the profession will render a service to every intelligent mother, to whom they may recommend a book dedicated to the welfare of her offspring.

II. SCIENTIFIC WORKS.

*A practical treatise on the diseases of infancy and childhood.* By T. H. Tanner, M.D., F.L.S., London, 1858, pp. 408.

An inclination to collect, destroys or lessens the tendency to produce. We may confidently assert that the greater the number of manuals issued the greater the dearth of new facts and real scientific discoveries; at all events, it is true, that a small monograph or a short, but original article in a medical journal, is to be valued higher than a large manual destitute of new facts and the most recent discoveries. We regret that it is our duty to notice a book, which does not at all meet the demands of the time in and for which it has been written. We the more regret it, because we have completely to disagree with a highly favorable report in the *Edinburgh Journal of Medicine* (Aug.), the reports and reviews of which we have always been accustomed to hold in great esteem. We feel, however, very willing to acknowledge everything that is praiseworthy, and therefore we heartily, with the *Edin. Journ.*, give Dr. T. credit for limiting excessive bloodletting in infantile diseases; but we deny him the originality in these views which the *Edin. Journ.* claims for Dr. T., and which Dr. T. claims for himself. The same remarks which the *Edin. Jour.* is at the pains of reprinting, may be found just as well expressed in any good manual on diseases of children, and much better, we think, in Dr. John B. Beck's *Essays on Infant Therapeutics* (New York, 1855, pp. 82–100).

A commendable feature of the work is the large number of subjects treated of, as but very few of the many manuals on diseases of children are complete. This deficiency is a great defect in a book designed to give full information on any subject that may occur in practice, and is not only found in our own American manuals, by Meigs, Dewees, and Bedford, but in those also by West, and even Rilliet and Barthez; this latter work should rather be considered a collection of most excellent monographs, than as a complete manual. While thus acknowledging the completeness of Dr. Tanner's book as regards the range of subjects considered, we have to confess that there is scarcely one article in the whole collection agreeing with the results of modern science in general, and of pædiatrics in particular. We shall cite only a few examples, from which our readers may draw their own conclusions. Atelectasis pulmonum (p. 308) has no other cause attributed to it by the author than bronchitis. In his opinion, pleurisy in children (p. 305) is most frequently produced by the extension of the inflammatory action in pneumonia, while it may be considered as certain, that the most obstinate and fatal cases of pleurisy very frequently are not even combined with pneumonia. Again our author asserts that laryngitis, pneumonia, and pleurisy are not unfrequent, while bronchitis and croup are perhaps, of all the severe affections of childhood, those which are most commonly met with, when in fact, every practitioner is accustomed to meet with many cases of bronchitis and pneumonia to a single case, except during a severe epidemic, of genuine croup. And it is well known that pleurisy and pneumonia do not rank equally as to the frequency of their

occurrence. In the opinion of Dr. T. again, "Croup is most common perhaps during the second year of life," (p. 282), and where he is enumerating (p. 284) the indications and contra-indications of tracheotomy, he says: "The practice of auscultation in the second and third stages, yields information as to the amount of air entering the lungs, and the extension or not of the inflammation to the bronchial tubes and lungs." These assertions are by no means true, not even approximatively. The first one may readily be refuted by statistics which constantly prove, that (primary and secondary croup taken together) croup is less frequent in the first two years of life, than in the period from two to five years. Further, whoever has attentively observed the stages of croup, is well conversant with the fact, that in almost all cases it is more than difficult, even impossible, to learn the state of the lungs, because no pulmonary sound can be perceived on account of the overwhelming noise in the larynx. What, again, are we to say of the symptomatological accuracy of a writer, who calls (p. 223)" a continued contagious fever, accompanied by an eruption, and frequently attended with inflammation of the mucous membrane of the respiratory organs," *the* distinguishing character of measles? Or what of his nomenclature, when with him (p. 230), "simple or infantile, or remittent, or more correctly, typhoid fever" are synonyms? What estimate shall we place upon the scientific attainments of an author who, in a book written for the information of others, has only the following to say on typhus in children: "Typhus is, I *believe*, contagious?" or of his knowledge of pathology, who ventures to call infantile intermittent fever "a rare disease in children under five years of age?" or of his physiological learning, when amongst the four general effects of abstraction of blood from the system the first is said to be the diminution of the quantity of blood, and another, the weakening of the heart's action?

We must add, that we can but find fault with a sentence like the following (p. 304): "Either the inflammation terminates in resolution and complete recovery, or the roughened surfaces become adherent, or they are separated by the effusion of serum, and a kind of dropsy results, known as hydrothorax"—in which the terms are as badly selected as the pathology is incomplete or false. Moreover, we desire to state, that the general opinion expressed on diseases of childhood is not fully according to truth. For example, the author states (p. 20), that, "the maladies of this time of life are severe and insidious in their nature, soon give rise to organic change, and run their course with a rapidity not seen in the adult." This is true, but the contrary is equally true; that the maladies of childhood, severe and insidious though they appear to be, do not give rise to organic change, but yield readily to health and cheerfulness. Such is the action of the nervous system, and the rapidity of metamorphosis in the organism of children, that sometimes an extremely doubtful prognosis is refuted by an unexpectedly speedy recovery, and *vice versâ*. A practitioner yielding to the impression communicated by the above quotation from Dr. Tanner's work, would be liable to many mistakes in his estimation of the importance of apparently dangerous symptoms.

We have not space to extend our criticism, and will merely add that the author has, by no means, given to individual subjects the space and consideration which they deserve. We have spoken of atelectasis pulmonum, so prominent a feature in the investigations and studies of European writers, which is dispatched in a few lines. Tuberculosis occupies only two pages; scrofula only three and a half; syphilis only one and a half, while the symptomatology of this latter important disease is more defective and inaccurate than almost anything in the whole book. Finally, we have to state, that the extracts given above are taken at random; they are not a few points selected after a careful reading, but they were generally found on the first page wherever we happened to open the volume.

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2. *Therapeutisches Taschenbuch der Kinderkrankheiten nebst den gebräuchlichsten Heilformeln.* Für practische Artze and Studirende. Herausgegeben von Dr. Richard Hagen. Leipsic, 1857, pp. 320.

*Therapeutical Vade-mecum of Diseases of Children, together with the Recipes most in use.* Edited, for practitioners and students, by Dr. Richard Hagen. Leipsic, 1857, pp. 320.

Names of diseases brought forward in an alphabetical order; very meagre remarks on therapeutics at the head of every chapter; and a legion of short and long, cheap and dear, ridiculous and sensible, new and old-fashioned recipes following each other without system or common sense—such is the uniform matter printed on three hundred pages. No symptomatology, no pathology, no pathological anatomy; in short, nothing whatever of a scientific nature can be found in the whole volume. What such a book is good for, we can hardly perceive; an educated physician is not in need of it; its only use could be for the ignoramuses among "practitioners and students," and for individuals who desire to become children's doctors without thought or study. The whole volume is unworthy of the high development of medical science in Germany; we should not have noticed it, were it not the unfortunate duty of a literary reporter as well to proscribe what is unworthy, as to recommend what is deserving. Dr. Hagen's scientific reputation, after publishing a good translation of Barthez and Rilliet's renowned manual, would have remained better, if this little book had not brought his name on its first page.

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3. *De la Scrofule.—Leçons cliniques, professées à l'Hôpital de la Charité. Par M. Piorry, recueillies par* M. Frederic Duriau. Paris, 1857, pp. 14.

*On Scrofula.—Clinical Lectures by* Mr. Piorry, *at the hospital "de la Charité," collected by* Mr. Frederick Duriau. Paris, 1857, pp. 14.

Inflammatory action becomes manifest by the stopping of sanguineous or lymphatic circulation, by the coagulation of the liquid contained in the vessels, and, finally, by the exudation of a plastic lymph. After

the inflammation has ceased, circulation may take place again by means of the vessels, but the plastic product exuded into the interstitial cellular tissue will not disappear in the same manner. It will undergo a process of condensation, and leave an induration of the ganglion, which by itself will, more or less, prevent lymphatic circulation and give rise to a new pathological affection somewhere else in the organism. Thus, such an induration must not be considered as the symptom of a specific diathesis. Now, these indurations are very slow in their development, and especially does suppuration take a very slow and tedious course. But this, although being a general fact with "scrofulous" individuals, is not a proof of the existence of a peculiar diathesis; for all such patients, suffering from the influences generally admitted to be the cause of "scrofula," as inappropriate food, bad air, etc., have a small heart, a small quantity of blood, and exhibit a slow circulation; and undoubtedly, according to Magendie, the circulation of the blood has a direct influence on lymphatic circulation. Therefore, in cases of this description, reaction and absorption are less powerful. "Scrofula," then, is but a defective development of organization, with the characters of anæmia or hydræmia, and consequently a disposition to indurations and swellings of the ganglia. Moreover, Lebert was unable to detect hereditariness of "scrofulous" symptoms in more than a third of his cases—an assertion which diminishes a great deal the necessity, or possibility, of assuming a diathetic peculiarity. Neither the general disposition, nor real local lesions must be classified as a specific disease. Even the chemical alterations of the blood, that have been found, are to be considered as a consequence of local lesions and the general quality of the blood, and not as a primary disease. Scrofula, then, is no more a specific disease according to Piorry than according to Velpeau.

Besides these highly scientific expositions, there are some remarks on asthma thymicum, a case of which is introduced by Mr. Piorry. It is the case of a young man affected with inflammation and ulceration of the tonsils, and consecutive swelling of the bronchial and cervical glands, pressing the pneumo-gastric nerve, and producing thereby attacks of suffocation. Mr. P. therefore coincides with Marshal de Calvi and A. Hourmann, contrary to the opinion of Mr. Lee, that a great many cases of thymic asthma, or spasmus glottidis, are but the consequence of pressure on the pneumo-gastric nerve.

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4. *Recherches sur les anomalies congénitales du canal de l'urèthre. Thèse par* Alexandre Adolphe Picardat. Paris, 1858, pp. 51.

*Investigations on the Congenital Anomalies of the Canal of the Urethra. Inaugural dissertation by* Alexander Adolphus Picardat. Paris, 1858, pp. 51.

This pamphlet treats, in different chapters, on complete or partial absence of the urethra, on its obliterations, on its abnormal openings (epispadias, hypospadias), on anomalies in its general form (dilatations and contractions), and on the twofold character of its canal. There is nothing original in this little work; but whoever wants to find a good

collection of facts on congenital deformities of the urethra, from French authors, will feel satisfied with Mr. P.'s selection. We say from French authors, for, except Haller, Ruysch, Vesalius, and Borelli, whose Latin works are occasionally quoted, Mr. P. appears never to have consulted any foreign authority.

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5. *On the Nature and Treatment of Club-foot and analogous Distortions involving the Tibio-tarsal Articulation.* By BERNARD E. BRODHURST. London, 1856, pp. 134.

Talipes-varus is by far the most common form of congenital distortion of the foot; of 765 cases of congenital talipes, 688 were varus, 43 valgus, 18 calcaneus. Equinus is an exceedingly rare congenital affection. Of non-congenital distortions, equinus, equino-varus, and valgus, are the most common. Double and single club-foot occur almost with equal frequency; of 688 cases, 363 were double, and 325 were single; and of these, 186 were of the right foot, and 139 of the left. There is in France 1 talipes in every 3,000 of the population; in England the number of cases is relatively larger. In cases of congenital distortions the author never finds the primary cause in the tarsal bones, but believes them to be turned, by muscular action, around their axis, there to be kept from their normal development, and to assume another shape. He positively denies any influence of the fœtal position in the uterus in producing distortions; but the iritation of the cerebro-spinal system, or its inflammation or degeneration, is a frequent cause. Sometimes an hereditary influence is probable. Non-congenital distortions develop themselves, in their majority, in early life, in consequence of paralysis, spasm, inflammation, voluntary position, and debility.

Paralysis is often seen in apparently healthy and robust children; the "myogenic paralysis" is mentioned by the author as a disease peculiar to the infantile age, no pathological alterations of the nervous centres being proved to exist. The author very seldom met with it before the ninth, or after the eighteenth month, and, like Bouchut, considers it to be of a rheumatic nature. Its attack is sudden, hyperæsthesia preceding in some cases. Sometimes only single muscles, sometimes entire groups of muscles are attacked.

Tenotomy is the most important remedy; the operation having been performed, the limb is brought into the same position as before, extension being commenced but in the second or third week. Early age is no contra-indication against tenotomy, which may be performed as early as the fourth or sixth week of life. In general, the author is of the opinion that very many distortions, particularly those resulting from paralysis, might be prevented by the early use of mechanical means. Pes equinus requires the division of the tendo Achillis; simple pes varus of the m. tibialis ant., either alone or with the plantar fascia; p. varus, if of a higher degree, of the mm. tibialis ant. and post., flex. long. digitor. and tendo Achillis; congenital valgus the division of the mm. peronæi. Calcaneus, according to the author, seldom requires the division of the flexor muscles, being mostly a consequence of paralysis of the

extensors. The apparatus the author makes use of are Scarpa's and Langard's shoes, and a shoe modified by himself from Scarpa's. For paralysis he resorts to galvanism ; the internal administration of sulph. strychn. had only a momentary effect; sulph. zinc., in doses of from 3 to 5 grains a day, appeared to produce a somewhat better effect.

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6. *On the Mechanical Appliances necessary for the Treatment of Deformities.* By Henry Heather Bigg, Anatomical Mechanist. Part I. *The lower limbs.* London, 1858, pp. 236.

This volume is not strictly professional, but is the work of a practical mechanic. A description of 75 different instruments is given, together with the theory of their action, and the manner in which they should be applied and adjusted. The mechanical appliances described are for deformities of the toes, of the foot, and ankle (tal. valgus, equinus, varus, calcaneus), of the leg, knee, and hip (curved tibia, genu valgum, contracted knee, and contraction of the hip-joint). The author comes to the conclusion, that unless mechanical appliances are constructed with a due regard to the anatomical and mathematical conditions of malformations they will inevitably give dissatisfaction. This is a clear and intelligible, practicable book, and gives testimony of a fine mechanical talent, and good anatomical knowledge.

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7. *An effectual and simple Remedy for Scarlatina and Measles.* In a letter to John Simon, Esq., F.R.S., with an appendix of cases. By Charles Witt. London, George Philip & Son, 1858, pp. 24.

The object of this pamphlet is to recommend the bi-carbonate of ammonia, as *the* never failing remedy in scarlet fever and measles. Of the writers who have preceded him with specifics our author names Letsom (1722), Wilkinson, Peart, Ricardo, Strahl and Riecken. If he had known the names of some others, as Malin, Bodenius, Fischer, Loewenhardt, Schlesier, Rösch, von Ammon, Stöber, Gross, Heine, and Gyrsting, he would, perhaps, have omitted to carry owls to Athens. At all events, after it has been decided upon by scientific medicine, that there is no such thing as a monarchical power in a remedy, as little as there is an absolute essentiality in a series of symptoms called a disease, it appears to be unnecessary to repeat in a special pamphlet what has been asserted a hundred times before. If we go back in search of specifics, we shall find abundant materials for pamphlets in the long-forgotten, all-saving methods of blood-letting, antiphlogistic treatment, cold water, and chlorine, each of which has had its time. We think much of the bi-carbonate of ammonia in cases of scarlatina, requiring powerful stimulants, because of the dissolution of the blood, and general depression of the nervous functions ; but we cannot say with Mr. Witt, that we have been so fortunate as not to lose a patient out of several hundreds.

*(To be continued.)*

# BIBLIOGRAPHICAL NOTICES.

ART. XII.—*Diseases of the Urinary Organs. A Compendium of their Diagnosis, Pathology and Treatment.* BY WM. W. MORLAND, M.D., etc. Philadelphia: Blanchard & Lea, 1858.

EVERY medical practitioner whose attention has been to any extent attracted towards the class of diseases to which this treatise relates, must have often and sorely experienced the want of some full, yet concise recent compendium to which he could refer. He must have keenly felt that there was much needed an able and accurate *résumé* of the present state of science in respect to diseases of the kidneys and bladder; one which should clearly point out the benefits that have accrued from the experience and researches of the profession throughout the world during the last few years, and which should bring our knowledge upon these subjects up to the present moment.

This desideratum has been supplied to the profession, by Dr. Morland, and it has been ably done. He has placed before us a full, judicious and reliable digest of the knowledge which has come down to us from the past, and of that which has recently been rapidly accumulating in regard to the diseases to which we have referred.

The book is a thick octavo, containing 579 pages, and is divided into two parts. The first part treats of the diagnosis, and the second of the pathology and treatment of urinary disorders. One chapter in each part is devoted to the affections of the supra-renal capsules, a class of diseases which have been but recently added to the catalogue, already sufficiently long, we had supposed, of the ills which flesh is heir to. While yet the functions which these bodies are created to perform in the human economy are hidden in obscurity, we are called upon to note their diseases, and the almost inevitable fatal issue to which these affections tend. The nearest approach to a sound physiological theory which has yet been broached, is that which has been hazarded by M. Brown Séquard, who considers these organs as intended to destroy a pigment, which, when they are diseased accumulates in the system, and is deposited upon the surface. This "Addisonian bronze" has thus far been observed in a considerable number of instances, on both sides of the Atlantic, and but five so-called exceptional cases have as yet been reported, in which, when this symptom had been observed, it was not found coincident with the capsular disease, and these do not perhaps fairly come under this head. Two were dissecting-room subjects, and we know nothing of their previous history, nor of the appearance of the skin during life, nor of the parallel and equally important phenomena by which it was accompanied. The discoloration of the skin, as observed after death, was in these instances certainly similar to that which Addison has so well described. The three apparently exceptional cases related by this writer, may, on account of the doubt which existed in regard to the character of the cuticular appearances, and other attendant circumstances, be justly thrown aside, until a more extended inquiry and investigation of un-

doubted cases, with enlarged experience, shall have placed the matter in its true light, and have either given to science a new pathological fact, or have caused the capsular theory to be abandoned, or have presented some more philosophical and correct explanation of the phenomena observed. The diseases of these organs, although, so far as is known, not immediately connected by function with urinary disorders, yet here receive that full consideration to which, on account of the present aspect, interest, and importance of the question, they are most certainly entitled.

The more common and better known diseases of the kidneys, ureters, bladder and urethra, their pathological history, diagnosis, and treatment, are distinctly recorded. Each subject is treated with sufficient minuteness, yet in a succinct, narrational style, such as to render the work one of great interest, and one which will prove in the highest degree useful to the general practitioner. To the members of the profession in the country it will be peculiarly valuable, on account of the characteristics which we have mentioned, and the one broad aim of practical utility which is kept in view, and which shines out upon every page, together with the skill which is evinced in the combination of this grand requisite with the utmost brevity which a just treatment of the subjects would admit.

The illustrations with which it is embellished indicative of the anatomical relations of the parts—the surgical manipulation to be employed —the representations of morbid structures and of microscopical appearances—all tend to render the work one which we gladly welcome as a valuable contribution to medical literature, and one which a Bostonian is justified in viewing with pride and satisfaction, as a product of native industry and talent. D. D.

Boston, October, 1858.

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Art. XIII.—*Mind and Matter; or, Physiological Inquiries, in a series of Essays, intended to illustrate the mutual relations of the Physical Organization and the Mental Faculties.* By Sir Benjamin Brodie, Bart, D.C.L. With additional Notes by an American Editor. New York: Samuel S. & William Wood, 1858, pp. 279.

The author of this little volume has long stood preëminent in our profession, both as a physiologist and a practical surgeon. His labors in every department of medical science to which he has directed his attention, bear the impress of a truly philosophic mind. In no other of his numerous publications does this appear more strikingly than in the work before us. The subject—the relation of mind and matter—requires for its proper investigation a thorough knowledge of physiology, long and patient observation, careful analysis, and correct interpretation of phenomena, and finally, profound reflection. These essential qualities the author happily combined in the highest degree.

The field of study upon which Mr. Brodie has entered is not new or uncultivated, and he will find not a few earnest co-workers ready to

combat or further his views. It is no part of our purpose to enter upon even an analysis of the work, and we shall content ourselves by simply calling the attention of our readers to it. The author has chosen the form of a dialogue as best adapted to his subject, as it is the easiest and most natural method of conducting an argument. The style of composition is chaste and elegant, and the presentation of facts clear and forcible.

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ART. XIV.—*A System of Human Anatomy, general and special.* By ERASMUS WILSON, F.R.S. A New and improved American, from an enlarged London edition. Edited by WILLIAM H. GOBRECHT, M.D., Prof. of Anatomy in the Phila. College of Medicine, etc., etc., with three hundred and ninety-seven illustrations on wood. Philadelphia: Blanchard & Lea, 1858. pp. 616.

THE present edition of this popular work is enlarged by the addition of fully one fourth more matter than the previous edition contained. We commend it cordially to students of anatomy.

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## PUBLICATIONS RECEIVED.

Thudichum (J. L. W.) A Treatise on the Pathology of the Urine, including a complete guide to Analysis. London: John Churchill, 1858.

Macleod (George H. B.) Notes on the Surgery of the War in the Crimea. London: John Churchill, 1858.

Gairdner (W. T.) On Medicine and Medical Education. Edinburgh: Sutherland and Knox, 1858.

Lawrence (John Zachariah). The Diagnosis of Surgical Cancer. Second edition. London: Churchill, 1858.

Radcliffe (Charles Bland). Epilepsy and other Convulsive Affections, their Pathology and Treatment. London: John Churchill, 1858.

Watson (Thomas). Lectures on the Principles and Practice of Physic. Philadelphia: Blanchard & Lea, 1858.

Green (Horace). Selections from Favorite Prescriptions of living American Practitioners. New York: Wiley & Halsted, 1858.

Coe (Grover). Concentrated Organic Medicines. New York: B. Keith & Co., 1858.

Smith (Wm. Tyler). The Modern Practice of Midwifery. New York: Robert M. De Witt, Publisher, 1858.

Reid (David Boswell). Ventilation in American Dwellings. New York: Wiley & Halsted, 1858.

# PART THIRD.

# MEDICAL RETROSPECT.

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*Report on the Progress of Obstetrical Science and Diseases of Women; prepared for the* NEW YORK JOURNAL OF MEDICINE. By E. NOEGGERATH, M. D., Physician to the Female Department of the (Canal street) German Dispensary of the City of New York.

## I. ANATOMY AND PHYSIOLOGY.

1. *Dr. Lambl, of Prague, on the nature and origin of spondylolistesis (Scanzoni's Beiträge z. Geb.* Bd. 3, 1858).—All the pelves presenting this very interesting deformity, pointed out for the first time by Prof. Kilian (see the NEW YORK JOURNAL OF MEDICINE of May, 1857, p. 389), have been subjected to another thorough anatomical examination by Dr. Lambl in order to find out a law explanatory of the nature and rise of spondylolistesis in comparing it with similar deformities on other sections of the spinal column.

1. The pelvis of Prague (described by Kiwisch, Seyfert, Kilian, Gurlt) is remarkable for the total absence of disease in the bony system, thus leading to the supposition that the remote origin of the malformation has to be sought for in the original development of the pelvis. The cause of the deviation is founded on the presence of an intercalary vertebra, which is a rudimental piece of bone, incuneated from behind into the sacro-lumbar juncture.

2. The pelvis of Munich (described by Breslau) is in many points similar to that above mentioned, especially in regard to the anatomical disposition of the lumbo-sacral juncture. It presents a hydrorhachitic opening in the spinal canal, and a supernumerary vertebral body with consecutive lordosis and partial synostosis of the dislocated vertebra with the os sacrum. These supernumerary vertebræ may be found at different places in the spinal column, thus effecting deviation in many directions.

3. A large female pelvis in Vienna (described by Rokitansky and mentioned by Kilian). The cartilaginous disk of the lumbo-sacral juncture has disappeared entirely; the articular surfaces are uneven, very hard and covered with warty excrescenses. These osseous protuberances are owing to a new formation, and are the cause of the thorough anchylosis of both vertebræ; upon the anterior edge of the first sacral vertebra may be found osseous masses, supporting the upper vertebra, which are located symmetrically on both sides of the mesian line, thus preventing the vertebral column from sliding down any farther.

4. A small female pelvis in Vienna (described by Rokitansky, Spaeth). The most striking feature in this specimen is the compression of the first sacral vertebra and the reduction of its height anteriorly to 3‴, so that the lower margin of the last lumbar vertebra is situated just opposite the upper margin of the second sacral vertebra. Besides this, the pelvis presents hydro-rhachitis sacro-lumbalis, with consecutive elongation of arch of the fifth lumbar vertebra, parallel to the vertical position of the articular surfaces of the proc. obliq. inf., dislocation of the same vertebra in front, lordosis lumbalis and pyæmic destruction of the symphysis pubis after metro-phlebitis puerperalis.

5. The pelvis of Paterborn (described by Kilian). It is of a very symmetrical form, presenting a clean lordosis of the lumbar portion of the vertebral column, without any lateral inflexion. The bones look very much like those in osteomalacic basins. No intercalary vertebra is present. The fifth lumbar vertebra is elongated in its sagittal diameter, forming a semicircle with upper convexity. The arch of the fifth lumbar vertebra is of a hydro-rhachitic construction, and this is, no doubt, the primary point which caused the dislocation of the vertebral body and the lumbar lordosis.

After a minute description of these five specimens, Dr. Lambl mentions—1. Dr. Robert's observation (*Monatsschrift für Geb.*, 1855, Bd. 5, Sept. 2, p. 81); 2. The pelvis of Brussels, a description of which was obtained by Prof. Gluge. It belonged to a rhachitic woman, 42 years old, who was pregnant with her third child, the second one having been delivered with the forceps. The last time, death occurred suddenly during labor, from rupture of the womb. In a post-mortem examination, all the pelvic symphyses were found very movable, the bones of the pelvis were very thin, the lower lumbar vertebræ have an anterior flexion (lordosis) narrowing the entrance of the pelvis so much that the fourth vertebra takes the place of the promontory. The upper part of the os sacrum is an atrophic and spongy condition, no doubt resulting from a local caries in consequence of which the sacral bone shrunk, thus permitting the vertebral column to slide forward. Therefore, this pelvis (mentioned by Kilian) cannot be counted among the spondylolistetic pelves. Among the pelves with vertebral sliding may be counted—*a*, a pelvis in Paris in the cabinet anatomique de la maison d'accouchement; *b*, a preparation in the amphithéâtre des hôpitaux, in Paris; *c*, a preparation in the anatomical museum of Bonn.

4. In opposition to these formations there is a deformity from spondylistesis and caries, in consequence of which the vertebral bodies and their disks are destroyed, while at the same time an osteophyte begins to grow up, which tends in a great measure to repair in some degree the primary evil; a preparation of this kind may be seen at Montpellier; lastly, a curious destruction and deviation of the vertebral column is observed in some instances, viz., kyphosis of the lumbar vertebræ, with compensating lordosis of the pectoral vertebræ.

II.—*Prof. J. C. Dalton on the anatomy of the placenta* (*American Medical Monthly*, July, 1858). After entering briefly into the histori-

cal part of the utero-placental anatomy, the author proceeds to develop his views on the distribution of the uterine vessels, with regard to those of the placenta. In opposition to Dr. Robin's views, he holds that the blood-vessels of the uterus do really penetrate into the substance of the placenta, as supposed by the Hunters, Dr. Reid, and Prof. Goodsir, and that they constitute, with the tufts of the fœtal chorion, an equal part of its mass. The placenta is therefore a double organ, partly maternal and partly fœtal, and in order to arrive at a distinct understanding of the arrangement of its vessels, a description of the development of the chorion of the fœtus and of the decidual membrane of the uterus, is necessary. At first, the villi of the *chorion* are quite simple in form and homogeneous in structure. Afterwards they become ramified by the repeated budding of lateral off-shoots from every part, and the external surface of the chorion presents a velvety appearance. Under the microscope these tufts appear to terminate by rounded extremities, and the larger branches of the villosity are seen to contain numerous oval nuclei, imbedded in a nearly oval homogeneous stratum, while the smaller villosities appear simply granular in texture. The blood-vessels coming from the umbilical arteries ramify over the chorion and penetrate into the substance of the villosities. They enter the stem of each tuft, and following every division of its compound ramification, they reach at last its rounded extremities. Here they turn upon themselves in loops, to unite finally with the venous branches which empty into the umbilical vein. About the third month the chorion becomes partially smooth. This smoothness, which begins at a point opposite the situation of the fœtus, increases in extent, and becomes more and more complete, spreading and advancing over the adjacent portions of the chorion. At the opposite portion of the egg, the chorion is thickened and shaggy, and takes part in the formation of the placenta, while the umbilical arteries enter the villi, forming, at the placental portion of the chorion, a mass of ramified vascular loops.

The *decidua* is nothing more than the mucous membrane of the body of the uterus. It consists throughout of minute glandular tubules, ranged side by side. A few fine blood-vessels penetrate the mucous membrane from below, and encircle the superficial extremities of the tubules with a capillary network. A small quantity of spindle-shaped fibro-plastic fibres is scattered between the tubules. The egg, when descended into the cavity of the womb, is imbedded in this hypertrophied membrane, and becomes attached to it. The villosities of the chorion insinuate themselves either into the uterine tubules or between the folds of the decidual surface. In this way the egg becomes entangled with both decidua reflexa and vera throughout the whole surface. Soon afterwards the umbilical vessels penetrate everywhere into the villosities of the chorion. Each villosity of the chorion, then, as it lies imbedded in its uterine follicle, contains a vascular loop, through which the fœtal blood circulates. At a later stage the vascular growth, both of chorion and decidua, becomes concentrated at the situation of the subsequent placenta, while elsewhere, over the prominent portion of the egg, the chorion not only becomes bare of villosities, but the

decidua reflexa also loses its activity of growth, and becomes expanded into a thin layer, nearly destitute of vessels.

The placenta, accordingly, is formed by the continued growth at one particular spot of the villi and follicles of the decidua. The uterine follicle enlarges with the villus, which has penetrated into it, sending out branching diverticula. Besides the follicles of the uterine mucous membrane, also the capillary blood-vessels, which lie between them, become unusually developed. At this time, therefore, each vascular loop of the fœtal chorion is covered first with a layer forming the wall of the villus, which is in contact with the lining membrane of the uterine follicle; and outside of this again are the capillary vessels of the uterine mucous membrane, so that two distinct membranes intervene between both the fœtal and the maternal capillaries. As the formation of the placenta advances, the general anatomical arrangement of the fœtal vessels remains the same. But the maternal capillaries become considerably altered; they enlarge excessively and fuse successively with each other, thus becoming dilated into wide sinuses. At this period the development of the blood-vessels, both in the fœtal and maternal portions of the placenta, becomes so extensive, that all the other tissues, which originally coexisted with them, fall into a retrograde condition and disappear almost altogether. The villosities of the chorion are now hardly anything more than ramified vascular loops, while the uterine follicles have become mere vascular sinuses, into which the tufted fœtal blood-vessels project. Finally, the walls of the fœtal blood-vessels having come into close contact with those of the maternal sinuses, become adherent to them, and fuse with their substance, so that the two can no longer be separated without lacerating either the one or the other. The placenta, at this stage, is composed essentially of nothing but blood-vessels of the fœtus adherent to the blood-vessels of the mother; the blood of the fœtus is always separated from the blood of the mother, which has resulted from the fusion of four different membranes, viz.: the membrane of the fœtal villus; that of the uterine follicle; the wall of the fœtal blood-vessels; the wall of the uterine sinus. If a villus, from the fœtal portion of the placenta, be examined, it will be seen that its blood-vessels are covered with a layer of homogeneous or finely granular material, $\frac{1}{3500}$ of an inch in thickness, in which are imbedded small oval-shaped nuclei. This layer is all that intervenes between the fœtal blood in the tufts of the chorion, and the maternal blood in the placenta sinuses. The anatomical disposition of the placental sinuses is very difficult of examination in the detached placenta, because they are collapsed and apparently obliterated, and the fœtal tufts appear to constitute the whole of the placental mass; still they may be satisfactorily demonstrated in the following manner. The uterus of a woman who has died undelivered, near the full term, is opened so as not to wound the placenta; then, after the fœtus is removed, it is placed under water, with its internal surface uppermost. Then, the amnion has to be removed from the placenta. If the end of a blowpipe be now introduced into one of the divided vessels of the muscular walls of the uterus, and air forced in,

we can easily inflate, first the venous sinuses of the uterus itself, and next the deeper portions of the placenta. If the chorion be now divided at any point by an incision, passing merely through its thickness, the air which was confined in the placental sinuses will escape and rise in bubbles to the surface of the water. Such an experiment shows conclusively that the placental sinuses communicate freely with the uterine vessels, occupy the entire thickness of the placenta, and are equally extensive with the tuft of the fœtal chorion. This experiment has been performed by Dr. Dalton on four different occasions. This method has many advantages over that adopted by the Hunters and Prof. Weber, especially because it is infinitely less liable to mislead by producing extravasations.

The opinion of some authorities, that no vascular openings are to be seen on the surface of the detached placenta corresponding with the mouths of the lacerated uterine sinuses, is explained by the fact that these vessels penetrate in such an extremely oblique direction, that their orifices may easily be overlooked.

III. *Dr. F. Guyon.—Etudes sur les cavités de l'utérus à l'état de vacuité* (Thèse. Paris, mars 1858.)—Dr. Guyon applied a stiffening substance for injecting the uterus, in order to find out the shape and dimensions of its cavity at the different stages of life. The results obtained in this way may be comprised as follows :

1. *From birth to the time of puberty.* The axes of the arbor vitæ are greatly developed, especially towards the upper extremity of the neck, so as to form an isthmus almost obliterating the cavity, from whence they diminish rapidly in size, ramifying towards the cavity of the body. A cavity of the womb does not exist, properly speaking, because the elevations of its internal surface touch each other entirely. The shape of the cavity is such, that it shows at its lower end a larger size, while from this point it contracts gradually up to the fundus, where the intertubular diameter is smaller than that of the entrance. The cavity of the body measures a little less than one-fourth of the entire length of the organ.

2. *Virgin and nulliparous uterus.*—The cavity of the body appears to be divided in two sections, one starting from the neck, narrow and long, the other intertubular, formed by two trigons connected at their basis. The three sides of the cavity are convex ; the lateral ones at first very obliquely directed, suddenly change their direction, approaching a vertical line on the summit of this second portion of the body.

The cavity of the neck is only a few millimetres larger than it was immediately after birth ; it is enlarged somewhat in the middle, restricted at the entrance, and not changed at its upper extremity. The shape of the mouth is generally that of a transverse slit, and not circular. The lateral columns present the same elevation as in the fœtus, in consequence of which the internal orifice is closed up by the natural rigidity of the uterine tissue. The folds representing the branches of the arbor vitæ are arranged in such a way that their free edge looks towards the orifice, so that they may arrest in some instances the

entrance of a probe. In virgins, the length of the cavity of the neck exceeds that of the body, notwithstanding the latter one has considerably increased. In women who are used to sexual intercourse, the difference of both cavities is null, or a trifling increase of the cavity of the body.

The isthmus represents a cylinder of 5 or 6$^{mm}$ in length, measuring 4$^{mm}$ in its transverse, and 3$^{mm}$ in its antero-posterior diameter. The total capacity of the cavities is from 3 to 5□ $^{cm}$.

3. *Multiparous uterus.*—Cavity of the body perfectly triangular, inclosed within convex lines, but less so than in the virgin uterus, so that the uterine horns are enlarged at the expense of the intermediate cavity. The vertical as well as the lateral diameters are increased, while the cavity of the neck is larger but shortened, owing to the contraction of the vaginal portion.

The internal orifice (isthmus) is wider and shortened, but always closed by the projections of the walls, and the arbor vitæ continues to be perceptible. The capacity of the cavities is from 5 to 6□ $^{cm}$.

4. *Uterus at the change of life.*—The internal orifice is generally obliterated. The cavity of the body, more or less distended by a transparent mucus, has generally retained its shape, and has gained a few millimetres in height. The neck has decreased in length so much so that, as a general rule, the vaginal portion has disappeared. After the external orifice is closed up in old women, the cavity of the womb exceeds in length that of the neck from 10 to 12$^{mm}$; in multiparous females, 0.004$^{mm}$; in nulliparous women, who have had sexual intercourse, both cavities are almost equal in length; in virgins, the cavity of the neck is 0.003$^{mm}$ longer than that of the body, and 0.006$^{mm}$ in the fœtus. From these researches, the author concludes that the uterine constrictions are always seated in the isthmus, and that they may result from a flexion, and more especially from retroflexions with rotation. The penetration into the peritoneum of intra-uterine injections, though manageable after death, is prevented in the living female by contractions of the womb.

### II.—PREGNANCY, LABOR, AND PUERPERAL STATE.

1. *Dr. F. H. Birnbaum.—A review of my experience in regard to Intra-uterine injections for producing premature confinement.* (*Deutsche Klinik*, May, No. 18 and 19).—The author used this method in seven instances, partially combined with other methods, partially alone. Not one operation was followed by evil consequences. Of seven children, five were born alive; of which number, one died soon afterwards, two died during the operation of turning and extraction. No death occurred which might have been attributed to the method. The time between the injection and the beginning of the first labor pains was respectively one half hour, 2, 5, 17, 72 hours, and the time of actual labor respectively 1, 3, 6, 10, 6, 10 hours. Therefore, the effect of this method is sure and prompt, and demands only in very rare instances a combination. The most efficacious combination is the introduction of a

bougie into the womb, as the bougie is very apt to strengthen and support the irritating effect from the injections.

2. *C. Braun on the pathogenesis of hydrorrhœa gravidarum* (*Wien. Ztschr. N. F.* I. 17, 1858.)—The hydrorrhœa is a periodical discharge of a yellowish, sero-albuminous fluid from the genitals of pregnant women, which is unconnected with the rupture of the membranes, or the discharge of the amniotic liquor. Hydrorrhœa seldom occurs before the third month, but generally at a more advanced stage. It may appear only once, or more often, sometimes imitating the menstrual types, ceases generally after delivery, or continues in a few instances for a length of time during the puerperal state. In consequence of the red color of the fluid, the hydrorrhœa has been often mistaken for a menstrual discharge of blood.

Dr. Braun believes that the hydrorrhœal fluid is a secretion or rather albuminous exudation of the inner surface of the womb, which appears in an intermittent typhus, elevating a portion of the chorion from the decidua, or the latter itself, thus forming a reservoir for the fluid, from which it escapes occasionally through the mouth of the uterus. Similar albuminous discharges have been observed in the non-pregnant state, especially when fibrous tumors were in the cavity of the womb. Another proof that Dr. Braun's views are perfectly right, is the fact that after delivery the fœtal membranes are found intact, and that the quantity of liquor amnii is not lessened in cases of hydrorrhœa. The microscopical examination of a placenta expelled after hydrorrhœa, detected a recently formed membrane of cellular tissue on its convex surface.

3. *Dr. T. W. Hall on stomatitis materna* (*Cincinnati Lancet and Observer*, April).—Ulcerative inflammation of the mouth appears not unfrequently in women during the closing months of utero-gestation. It is rarely met with in particular localities, while in others it seems to be endemic. The affection seems to be of an aphthous nature, and associated with a disordered system, as that of anæmia combined with a scrofulous diathesis, dyspepsia, etc. It attacks the mucous membrane indifferently, and is even migratory in its character. It sometimes becomes chronic. The treatment consisted of astringents, acids and tonic medicines.

4. *Dr. W. Read on the influence of the placenta upon the development of the uterus during pregnancy* (*The American Journal of Medical Sciences*, April, 1858).—This very interesting paper was read before the Boston Society for Medical Improvement, and is intended to clear up some dark points of the theory of the development of the uterus in cases of placenta prævia. The question as yet unsettled is, whether irrespective of the position of the placenta upon the uterine walls, the fundus always begins to expand before any other portion of the uterus. The arguments brought forward in its favor by Doherti, Jacquemier, Murphy, Cazeaux, Ingleby, Ramsbotham, Lee, Blundell, J. Churchill, Meigs, Moreau, and many others, are reported and duly criticised. Besides the weakness of the evidence upon which these authors founded their theory, it cannot account for all the phenomena which occur in

placenta prævia. Why do some females who have the placenta attached to the proper neck of the uterus go their full term, while the majority of those who are in the like situation do not go so long? To give a satisfactory and sufficient explanation of these hitherto unexplained phenomena, Dr. Read proposes the following theory: the attachment of the placenta to any portion of the uterus causes a development at that place, which proceeds, *pari passu*, till the limits of growth in the placenta having been reached, the enlargement is continued and kept up by the pressure constantly exerted on the uterine walls by the growing contents till the time of parturition. In this way, the fact that very often, in complete insertion of the placenta, hemorrhage does not occur until the full term has been reached finds a sufficient explanation. For by the time that the placenta having passed the period of its most rapid growth, the fœtal mass has already begun to exert its effect upon the uterine walls to enlarge them; the added strength which the thick, firm disc of the placenta gives to the cervical portion to resist this distension, is enough to prevent its being felt in that direction. It applies also to partial presentations of the placenta of every degree, from that in which the os is almost entirely covered to that in which the edge only of the placenta is at its margin, the latter instance having a marked tendency to early bleeding. For just in proportion to the amount of the neck of the uterus covered by the placenta is it protected from the distending process to which it is exposed during the latter periods of pregnancy, and in just such proportion will the hemorrhage appear late or early. Those cases, also, where the placenta is on the cervix, in the immediate vicinity of the os, but at the same time not overlapping it, instances which do not manifest a hemorrhagic tendency, as was to be expected, are perfectly accounted for by the same reasoning.

5. *Dr. G. W. Thornton on extraction of a living child by turning after the death of the mother* (*Cincinnati Lancet and Observer*, Feb. 1858; *The American Journal of Medical Sciencss*, April, 1858).—The mother died suddenly while in labor from some unascertained cause. Forty minutes elapsed after the last expiration of the mother before Dr. Thornton arrived. On examination he found that the membranes had been ruptured, that the head was in the cavity of the pelvis, the vertex presenting at the inferior strait. Dr. T. raised the fœtal head, passed the hand into the flaccid womb, turned the child, and extracted it as far as the head without delay; at this point it momentarily hung until assisted by the fingers in its mouth. Thus forty-five minutes elapsed from the last expiration of the mother to the complete extraction of the child. The child did not breathe and was of a bluish color; but a slight ticking could be heard on placing the ear over the heart. The fauces were cleared, Marshall Hall's ready method then diligently practised for half an hour, when a convulsive inspiration took place. This method was persevered in, assisted by aspersions and frictions, and at length respiration was established. The child, a boy of the average size, sucked vigorously at the bottle and lived for three weeks and two days; its death probably resulting from want of sufficient care.

7. *Dr. G. McC. Miller, of Brandywine village, Del., on the local*

*application of belladonna as a means of arresting the secretion of milk* (*The American Journal of Medical Sciences*, July, 1858).—A case is reported of a colored woman who was delivered of a dead child. About a day after her delivery Dr. Miller applied a solution of extract belladonna, gr. x. in aq. ℥ss., with a camel's-hair pencil to the areola of each mamma three times a day. The breasts swelled some on the third day and a little milk oozed from the nipples. But the secretion soon disappeared, and in less than a week the solution was discontinued, the mamma having reacquired their normal size.

6. *Dr. Alex. Ramsey on a large fibrous tumor of uterus: enucleation and expulsion—Recovery* (*Edinb. Med. Journal*, July, 1858).—A primipara was delivered, in a natural labor, of a healthy child, when Dr. Ramsey, in the act of removing the placenta, detected a large intermural tumor. An exploring needle was introduced for diagnosis, but no fluid escaped. The opening of the trocar, after some days, was found considerably expanded so as to admit the point of the forefinger, by which the opening was gradually enlarged, and separation was effected fully 3½″ around it in all directions, except that a thick and strong fibrous band extended from the lower and back part of the tumor to the anterior lip of the os uteri. This band was afterwards divided by the urethrotome. Five days afterwards the tumor came away on its own account; it was a large flaccid mass, about 2½ lbs., with a strong white investing membrane on all its surface, except where its attachments had been separated by direct interference.

(*To be continued.*)

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*To Readers.*—The length of the original and review department of the present number has compelled us to omit several articles, reviews of books, etc., notwithstanding the addition of sixteen extra pages. This explanation is due those who may have anticipated the appearance of papers in this issue.

In closing this volume, we cannot forbear expressing our obligations to those co-laborers who, during the past year, have so generously sustained by their contributions the literary character of this journal. During that period it has been entirely made up from manuscript, carefully prepared.

We feel especially called upon to notice, in the most complimentary manner, the contributions of Drs. Jacobi and Noeggerath to the Retrospect department. Having facilities for consulting every medical periodical published, both in this country and Europe, they have furnished a more complete digest of the current literature of their respective subjects than appears in any other medical publication extant.

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NEW SERIES.


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## ERRATA IN NO. I. VOL. V.

At page 78, line 8th from top, for "may," read "many."
" 79, " 27th from top, for "even," read "ever."
" 79, " 37th, for "nervology," read "neurology."
" 80, " 28th, for "is," read "are."
" 81, " 19th, for "commodation," read "correlation."
" 81, " 43d, for "conjunctional," read "conjunctival."
" 82, " 32d, for "all," read "and."
" 83, " 16th, for "and," read "all."
" 88, " 5th, for "nervously," read "variously."
" 88, " 8th, for "these," read "their."
" 88, " 24th, for "invite," read "unite."
" 89, " 2d, for "even," read "ever."
" 89, " 5th, for "all," read "an."
" 89, " 6th, for "all," read "an."
" 89, " 22d, for "causes," read "laws."
" 90, " 3d, for "through," read "though."
" 90, " 11th, for "our," read "an."
" 90, " 33d, for "experienced," read "explained."
" 97, near bottom, for "them," read "it."
" 98, " 20th from bottom, for "commutation," read "accumulation."
" 99, read "wittingly" and "unwittingly."
" 100, " 5th, "definitive" should be "defective."
" 100, " 13th, for "their class," read "the class."
" 101, " for "against the" man of straw, etc., read "to this."
" 102, " 12th, "termonology."

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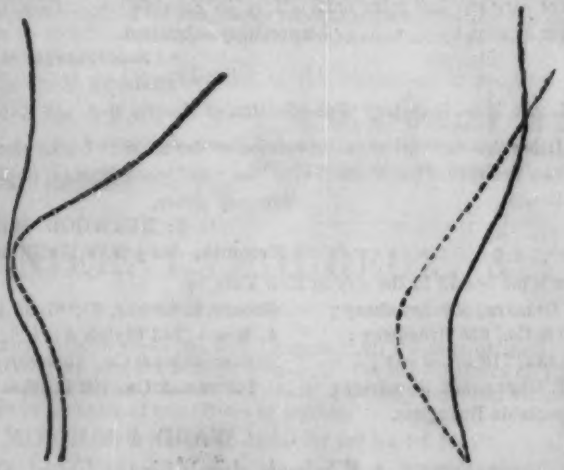

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